

Manufacturers Record

SOUTH'S INDUSTRY ADVANCES

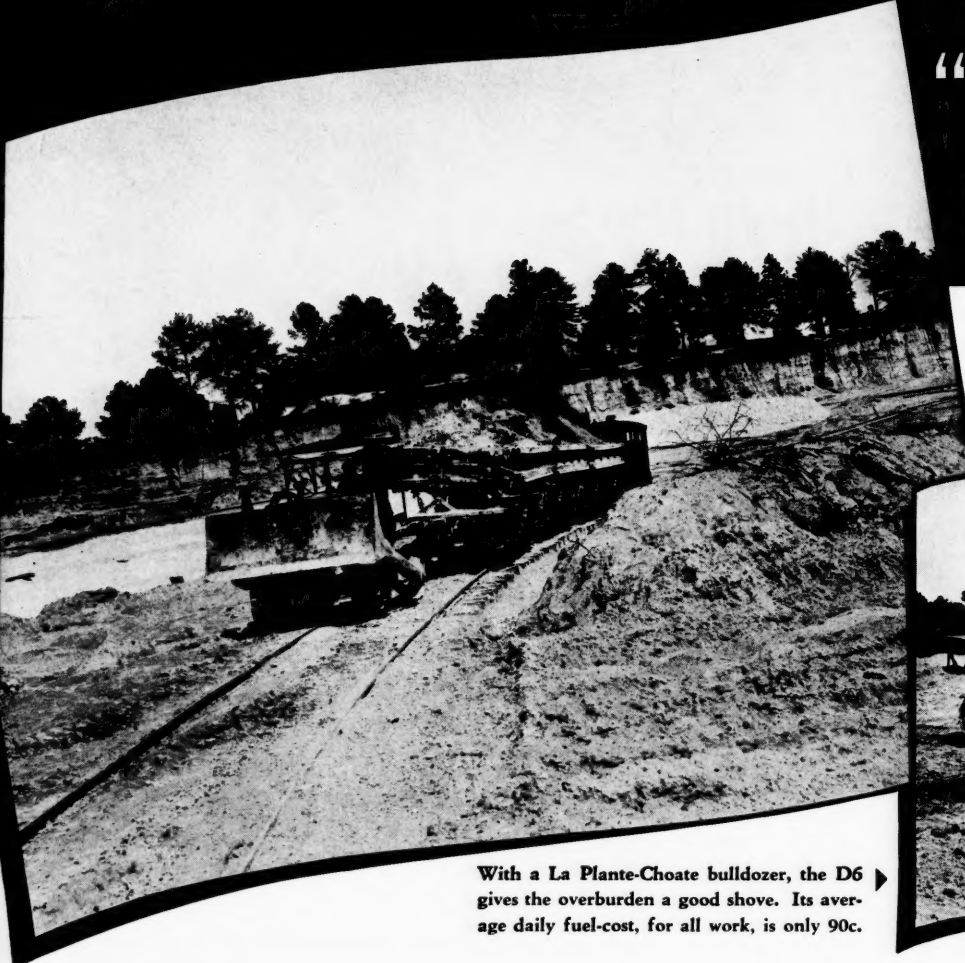
The industrial advance of the South is described in articles in this issue and shows the increasing importance of this section in the eyes of investors and manufacturers.

The opportunities presented in the Southern states are unequalled elsewhere.

JANUARY 1938

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WITH "CATERPILLAR" DIESEL



With a La Plante-Choate bulldozer, the D6 gives the overburden a good shove. Its average daily fuel-cost, for all work, is only 90c.

The "Caterpillar" D6 Tractor bears a hand when the locomotive finds the going tough.



To help keep down the cost of mining chalk, the North American Clay Company—near Bath, South Carolina—put a "Caterpillar" Diesel Tractor on its payroll. With a total fuel-bill of only 90c, the D6 works an 8-hour day . . . lends a hand when the company locomotive strains up-grade with loaded cars . . . shifts track to new locations . . . and, with a La Plante-Choate bulldozer, it also spreads and pushes overburden off the waste-fills.

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1938**

Volume CVII No. 1



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MANUFACTURERS RECORD

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Nation Through the Development
of the South and Southwest as the
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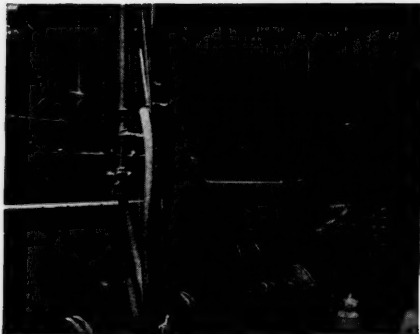
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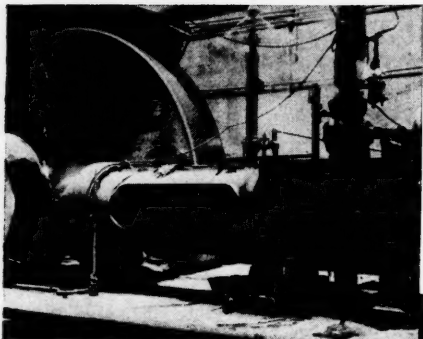
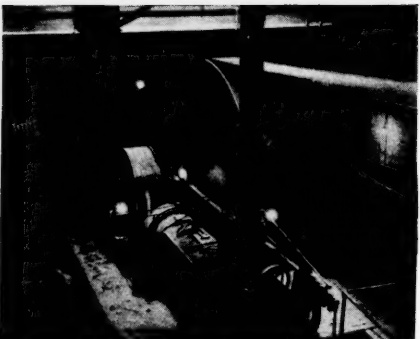
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JANUARY NINETEEN THIRTY-EIGHT



Is Your Power Plant "1908" MODEL



Many power plants still look like this —
imagine the efficiency!

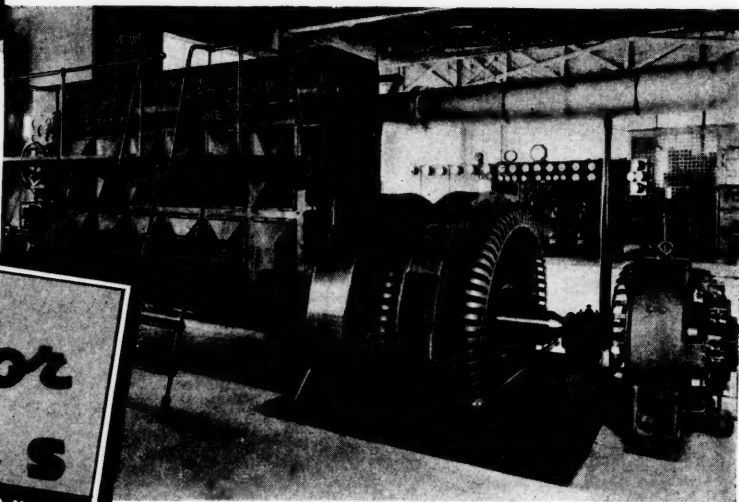
YOU may have invested in other improved equipment or processes . . . but have you done anything about your power plant upon which your entire production may depend? Too many power plants are still "1908 model"! Authorities know that antiquated, deficient power plant equipment wastes money every day!

How Antiquated Power Plants Cost You Money

Breakdowns are one way in which dollars slip away needlessly. It takes only one to cause serious loss in production. *Fuel waste* is another. A test any day would reveal power wasted away in heat which is not utilized as completely as possible.

Excessive maintenance and repair bills . . . slowing down of equipment of overloads or due to voltage drops . . . these are but two of many other ways in which antiquated power plants cost too much money.

Bring your power plant up to the highest standards of efficiency for 1938! Let us show you how Superior Diesels would fit such a program.



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Superior DIESELS

HEAVY DUTY MODELS:

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INDUSTRY

THE COUNTRY'S HOPE

IN planning for the new year if we have learned from the mistakes that have been made, it shouldn't be tremendously difficult to chart a course of progress for the people of the United States.

Attempts to change economic laws and regulate everything and everybody by a multitude of bureaus and commissions have created fear of what may come. There are so many things being attempted at Washington no human mind can grasp the variety of the objectives.

Hurling anathemas against private enterprise, charging big business with bringing on the present decline in production is a smoke screen. It does not explain the huge deficit in the budget, nor the paralyzing debt dangerously near 40 billion dollars.

What have been the results of New Deal experiments? Power centered in the President's hands beyond anything known has not met the situation. The encouragement of law-breaking labor, the unfair Wagner law which implies employers do all the wrong and employees none, the undivided profits tax, the threat of a destructive wage and hour bill, the threat of more TVA's, more vast government expenditures and more government competition with private enterprise, the constant ar-

raying of class against class, with talk of a "submerged third" and "economic royalists," or in later ballyhoo, "aristocratic anarchists," do not answer the doubts nor the insistent questions of men accustomed to doing things and seeing results. On the contrary they have placed business adrift on a turbulent sea of anxiety.

An about face to encourage initiative will bring prosperity as it would have done before this.

The policy of scarcity should give way to a policy of abundance. Thrift should be established and profligate spending abandoned. Government competition, actual and threatened, should cease while private industry, the hope of America, the source of employment, the outlet for accumulated capital which waits for confidence to enter the investment field, should be encouraged that men may find work and that there may be a demand for more workers.

Leadership of this kind on the part of government will be an inspiration and a spur to the making of a greater, fuller, richer life in America. It is for that the country looks and waits.

As we see it—

A Bright Picture

While the construction record for 1937 does not surpass previous records in the South, the showing is creditable. It does not equal the all-time high of 1936, but last year's figures of \$810,055,000 exceed those of 1927 and 1928 which were extremely active years.

The encouraging thing about last year's record is the extent to which private industry has taken hold of the South's opportunities for development. The most notable example has been in chemical processing which includes the outstanding feature of paper producing plants. There has been invested in three years in this one branch of the industry in the South alone \$100,000,000. What it opens up in the way of increased employment and the creation of new wealth is an indication of what can be done and will be done by private investors when the opportunity is right.

The outstanding list of enterprises in every line, set forth on another page, makes wholesome reading. They are widely scattered and are utilizing what is found in forest and soil, besides creating new wealth from by-products.

We are glad to present this picture at the outset of a new year, when there is so much confusion in our economic outlook. It is an inspiring picture. It provides an incentive for the South to do greater things, and for the investors of America to give close attention to a section which has been in the past mainly agricultural, but in recent years has been establishing on a firm foundation a great industrial empire.

Recently there have been printed gloomy articles and books about wasted opportunities in the Southern states. Some of the things they have discussed are common to all sections, others may be peculiar to the South and such articles may be helpful when they contain truth which all have not done, but let us not lose sight of the progress that has been made and the basis for it.

The South is set to go ahead. With anything like reasonable encouragement of private investment it will soon make previous records of development look small. Its population far surpasses other sections in its percentage of American stock. It has been said the time may come when this will be a bulwark for the America of the future. Its unequalled climate, its transportation, its power facilities, its matchless natural resources that are waiting the developing hand of capital, in the things that make life worth living, the South extends an invitation and an opportunity.

Farm Bill Puzzle

The farm bill, which is now in conference, contains a stipulation agreed to both by the House and Senate that acres which are withheld from wheat, cotton, corn and other crops shall be set aside and used only for what can be raised on them in the way of produce or livestock for consumption by the farmer and his family.

This was agreed upon mainly to avoid competition

with the dairying industry. Dairy interests objected to paying farmers a bonus for saving out certain land and at the same time permitting them to compete with a business not drawing a subsidy.

How such a provision can be administered presents a serious problem. Representative Rankin is of the opinion it will be necessary to have a Federal agent on every farm. Feed that may be raised on the acres set aside can be fed to work stock used by the farmer, but even if a horse grows too old to work he can't sell it. Neither can he sell the eggs that his chickens lay if they are fed on anything produced on these separated acres.

The whole thing is a puzzle and is bound to lead to complications that will make it difficult, if not impossible, to enforce the proposed law.

Whether it is constitutional or not is another question, but a lot of harm can be done, if the bill is enacted, before its constitutionality can be decided.

An Occasion in Florida

January 14 will mark a special occasion in the calendar of events for Fernandina, Florida, as well as the state of Florida and the South. This day has been set aside by a special proclamation of Governor Cone for the inspection of the new plant of the Container Corporation of America, and also to do honor to Dr. Charles H. Herty as the State's special guest.

Florida's wealth depending mainly upon agriculture, the necessity for a broader development of industrial enterprise has long been apparent to those interested in Florida's progress. The state has raw materials unequalled elsewhere for industries of various types, and the investment made by the Container Corporation which is said to amount to 6 million dollars may be regarded as an indication of what may be expected in other lines.

Dr. Herty's work, to be recognized by special ceremony on the date named, needs no comment here. He is familiar to the readers of the MANUFACTURERS RECORD as an outstanding industrial chemist, who has devoted his life and talents to the enrichment of the South and America. He is making possible a fuller utilization of one of the South's greatest resources in the manufacture of newsprint and white paper from pine. His vision and tireless energy promise to make America independent of foreign sources of supply of newsprint and, while enriching the Southern farmer, go far toward the making of a greater Southern industrial empire.

Notwithstanding all he has done, recent news tells that Dr. Herty's laboratory may have to be abandoned unless funds are provided for its continuance. *The Savannah Morning News* has issued an appeal which has been taken up by the press of the South for the Southern states to cooperate in making available to the laboratory the amount of money required. It would not only be a gracious act, but a farsighted one making for industrial progress of every state in the

As we see it—

(Continued)

South producing slash pine if by legislative action of the States an ample annual fund should be made available for the continuance of a work so necessary and far-reaching in wealth creation. Surely the South will not permit Dr. Herty's invaluable research efforts and talent to be unavailable for lack of money.

Inducement to Build

A bill introduced in Congress by Hon. J. Mark Wilcox of Florida, has the merit of attempting to break the jam in the building industry. It provides an inducement to private capital to enter the construction field by proposing the exemption from taxation of so much of the net income of individuals and corporations up to 50 per cent of total net income as may be expended by the taxpayer on new construction or repairs to existing buildings.

In a letter to the MANUFACTURERS RECORD, Congressman Wilcox says:

"Our problem today, as it was in 1933, is the finding of jobs for the unemployed. Government spending or pump priming, while necessary as a temporary measure, cannot solve the problem. * * * The government cannot continue to spend sufficiently large sums to insure employment to all who are in need of it, and it must eventually defeat its own purpose because the cost, with interest, must be paid by people in increased taxes."

The present tax burden and the fear of increased taxation cause investors to doubt that rents can be obtained which are commensurate with building costs, hence hesitation and delay in supplying the buildings the country needs.

Elements for Prosperity

T. M. Girdler, Chairman, Republic Steel Corporation, in an address to the Illinois Manufacturers Association

last month stated:

"The prolonged decline which began in 1929 was the inevitable world-wide liquidation of the great inflation period growing out of the World War. By contrast, at present there are no basic economic causes making for a prolonged recession. On the contrary, there is right at hand the economic basis for a great period of industrial activity and prosperity which would give employment to millions of our people.

"There is a widespread need for the building of new homes all over the country and for rehabilitation programs by the utilities and the railroads. Inventories of commodities are not generally excessive and interest rates are low. These are elements that should make for prosperity."

What then is holding business back? Why are not plans being pushed to promote enterprise and supply the goods and houses which the country needs? The

answer is lack of confidence on the part of investors and business executives who are answerable to their stockholders for the promotion of their enterprises.

Under present conditions it is difficult to make plans for progress.

Labor Leader Opposes Government Control

Matthew Woll, vice-president of the American Federation of Labor, in a speech at Philadelphia declared: "Labor is 'unalterably opposed' to the control of labor relations by the Federal government. Labor is entirely willing to have the government, through its Department of Labor, set up standards and exchange information and help in the settlement of disputes, but it is unalterably opposed to any department of government attempting to control and direct the relations of industry and labor from a Washington office."

In reference to the National Labor Relations Board, Mr. Woll is quoted as saying: "In their eagerness to adjust all the defects of industry by a single piece of legislation, they have created an unbalanced piece of legislation which has not only caused widespread hostilities on the part of industry, but has given rise to grave doubts and suspicions on the part of labor itself."

It has been said before, both here and elsewhere, that in the passage of the Wagner law, as well as government attempts to direct and control the relations between employers and employees, labor ran a serious risk of finding itself in a box from which it would have difficulty in getting out. Mr. Woll seems to be of the same opinion.

Good Reading

The importance of the South as a factor in the industrial progress of the nation is reflected in a number of articles

in this issue of the MANUFACTURERS RECORD.

Not only is the South giving greater attention than heretofore to the diversification of its agricultural products, but wide diversification is being shown in its industrial development.

There is described the vital part played by the railroads of the South in this section's growth, and by their annual purchases, their importance to the country's suppliers of materials of every description.

Other articles tell of "Steel in 1937," and the South's part in it; "The Value of the Cottonseed Crop," which describes the wide use of what was once considered a waste product; "The Cotton Textile Industry in 1937," "Shipbuilding in the South During 1937," "Petroleum Prosperity in the South," and "Fertilizer in the South in 1937."

This is a brief outline of material that will hold the interest of thoughtful men recognizing the place that industry occupies in our economic life.

Railways of the South in 1937

THIS summary of railway operations in the South relates to those companies which are classified by the Interstate Commerce Commission as lines of the Southern, Pocahontas, or Southwestern regions. These lines operate principally in and through the following fifteen states, although they have also some mileage outside of those states:

Alabama	Missouri
Arkansas	North Carolina
Florida	Oklahoma
Georgia	South Carolina
Kentucky	Tennessee
Louisiana	Texas
Mississippi	Virginia
	West Virginia

Economic Importance

The railways of these fifteen states operate 75,181 miles of line, which is nearly one-third of the total railway mileage of the United States. Their aggregate investment in transportation property, including land, railway lines, structures, equipment, materials and supplies, and other working capital, amounted to \$6,687,000,000 at the beginning of 1937.

BY

Dr. J. H. Parmelee

President, Bureau of Railway Economics

Stated in a summary fashion, here is what the operation of these 75,000 miles of line meant to the fifteen Southern states in 1936.

1. Employment for 285,000 men and women, with a total payroll for that year of \$465,330,000.
2. Purchases of material and supplies to the amount of \$216,631,000, the bulk of which went to industrial employers of labor in those states. This total amount was distributed in part as follows:
 - a Coal purchases amounted to \$48,129,000,
 - b Fuel oil purchases amounted to \$13,915,000,
 - c Iron and steel purchases amounted to \$78,233,000,
 - d Lumber purchases amounted to \$8,687,000.
3. The carriers originated 295,249,000 tons of freight, and handled 60,916,000 passengers.
4. They received a total of \$1,070,465,000 in operating revenues, disbursed \$739,-

286,000 in the form of operating expenses, and paid state and Federal taxes to the amount of \$85,655,000.

5. They earned a return of 3.27 per cent on their investment. Out of this return, they met their interest payments and other fixed charges, and devoted the principal part of the remainder to improvements and betterments of their railway plant.

Taxes in 1936, as stated, amounted to \$85,655,000, of which \$55,694,000 was paid to state and local governments of the fifteen states listed above. The balance of the total was paid to the Federal government, or to some of the neighboring states through which the carriers of the South have some operations. Tax payments in each of the fifteen states were as follows in 1936:

Alabama	\$2,497,000
Arkansas	2,040,000
Florida	2,336,000
Georgia	2,261,000
Kentucky	4,173,000
Louisiana	3,935,000
Mississippi	3,363,000
Missouri	3,152,000
North Carolina	3,907,000
Oklahoma	3,823,000

A New Baltimore & Ohio Train Crossing the Country's Oldest Bridge at Relay, Md.





Wabash Railway Bridge over the Missouri River

South Carolina	2,399,000
Tennessee	2,866,000
Texas	5,898,000
Virginia	5,282,000
West Virginia	7,762,000
Total	\$55,694,000

These statistics make it clear that the railways of the South make an important contribution to the commercial activity of that large section of the United States. This they do through their employment of men and distribution of payroll money throughout the several states; through their purchases of millions of dollars' worth of the commercial products of the several states; and through their payment of taxes into the coffers of the local and state governments, which go to support schools, police, and the many other activities of government.

While the results for 1936 were an improvement over those of 1931 to 1935, they were still much below normal, either

in terms of traffic, of revenue, or of net earnings.

Their contribution to economic activity is in addition to the contribution the railways make to general business conditions, as the primary agent of transportation. They haul the products of farm, mine, and factory to market, and assist the process of production and distribution at every stage.

The Story in 1937

The operations of these railways in the fifteen states has been summarized for the year 1936. It remains to indicate what the corresponding operations showed for 1937. While the figures for 1937 are based in part on estimates, the main outlines follow.

During the first nine months of 1937, there was general improvement in traffic, in revenue, and in net earnings. In spite of the fact that prices of materials were rising steadily, and tax rates were

mounting, the increase in revenue was more than sufficient to offset the rising costs of operation. A new tax, that has laid a heavy hand on railway treasuries, is the railroad retirement tax of 2¼ per cent on railway payrolls, in addition to which the carriers also pay the Social Security tax on payrolls for the purpose of making unemployment compensation payments. This last tax on payrolls has been at the rate of one per cent in 1936, two per cent in 1937, and three per cent from January 1, 1938.

In addition, the carriers found it necessary to make wage increases to their employees during 1937, a part of which went into effect in August and a part in October. These wage increases meant more than \$30,000,000 per year to the carriers of the South. While it is helpful to the South to have this increased distribution in money in the form of wages, yet the burden on the employer is made heavier, and his problems are by that much increased.

While both revenues and expenses in the first nine months increased about 8 per cent over 1936, and taxes increased 9 per cent, the net railway operating income after expenses and taxes, showed an increase of 6.6 per cent.

The fourth quarter of 1937—October 1 to December 31—reversed the trend of the first nine months. During that quarter, revenues declined 11 per cent, while expenses continued to rise. The net railway operating income showed a decline of 42 per cent.

For the year 1937 as a whole, the decline in net was about 10 per cent under 1936, and the rate of return declined from 3.27 per cent to less than 3 per cent.

Due to the mounting costs of operation, and to the decline in traffic, the carriers of the South joined the carriers of other sections in a decision to increase freight rates 15 per cent, with exceptions as to certain important commodities. Because of these exceptions, the proposed increase will average from 12 to 13 per cent in the South.

The carriers applied to the Interstate Commerce Commission in November for authority to make these increases effective, and the case is now being heard by the Commission. A decision is looked for in February or March, and the rates so authorized will become effective shortly thereafter.

Railways of the South enter the year 1938 with the hope that the current recession in their traffic will soon be replaced by more normal levels; that their revenues will again increase; and that they may once more resume normal employment and purchases, so as to continue to contribute on a large scale to the prosperity of the South.

The Cotton-Textile Industry in 1937

BY

Dr. C. T. Murchison

President, Cotton-Textile Institute

ANORMALLY low demand for cotton goods in the last six months of 1937 obscures the fact that the cotton manufacturing industry had a remarkably active year. The mills manufactured more goods, employed more people and paid higher wages than in any of the last ten years. In fact, the volume of cotton goods production may establish an all-time high record for the industry.

The mills processed nearly 7½ million bales of cotton, or over 3½ billion pounds against annual averages for the previous ten years of 6,125,000 bales, or 3 billion pounds. This accomplishment for 1937 marks an exceptional two-year period as the year 1936 was also one of unusual activity. The production in 1936 was 16% above the ten-year average.

The significance of the production records of 1936 and 1937 should be appraised, however, in the light of population increases. As population increases, there should be an accompanying increase in the use of cotton goods. Thus, what may have been considered exceptional ten years ago may possibly be regarded as no more than serving the ordinary needs of the country currently in view of an increase in population of 11,000,000 persons during the last decade.

The per capita output of cotton goods throws a clearer light on the position of the cotton industry. After adjusting for the population increase, and for exports and imports of cotton cloth, the available supply expressed in yardage per capita, annually since 1927, has been as follows:

	<i>Sq. Yards per Capita</i>
1927	71.7
1928	62.5
1929	66.1
1930	50.2
1931	54.9
1932	48.8
1933	62.2
1934	54.4
1935	55.1
1936	68.0*
1937	70.6*

*Estimates based on 1935 Census relationships.

The extent to which the depression years cut into cotton consumption is clear from the above statement; the industry, however, can take great satisfaction in the fact that, notwithstanding the new competition from numerous commodities, the average per capita figures for the last two years almost equal those of the pre-depression period.

The raw cotton situation suggests the possibility of another year of favorable demand for cotton goods. That there is at the disposal of cotton mills in all countries about 6½ million bales of cotton more than has ever been available before seems to be adequate assurance of an abundance of raw material at moderate prices.

Cotton goods exports did not keep pace with the high volume of domestic activity. 1937 will be the seventh year since annual exports of cotton goods approached a one-half billion square yards total. The volume in 1937 will approximate only one-quarter billion square yards. This quantity, although slightly in excess of last year, is higher than was expected and was indicated only when the figures showing an accelerated rate of exports during October appeared.

The 1937 volume will, however, be 13% less than the average for the previous five years. The principal export markets for American cotton goods are Cuba, Colombia and the Philippine Islands.

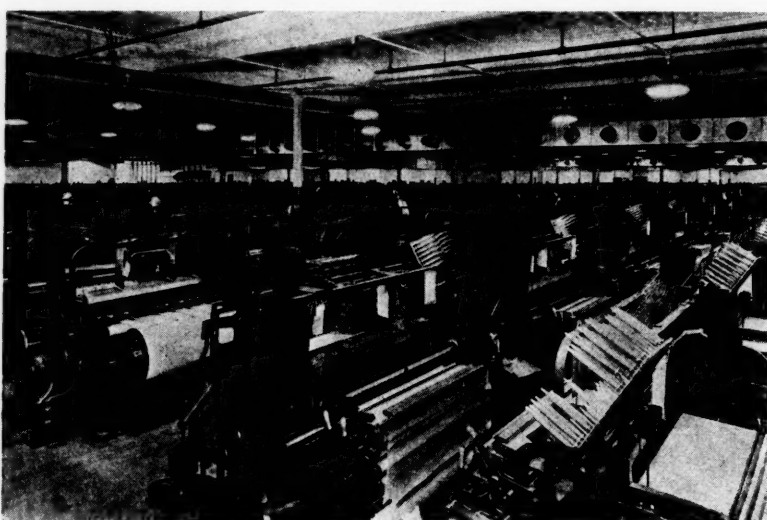
Imports were greatly stimulated by the

heavy demand for cotton goods during the early part of 1937. Japan was the principal source of supply. That country threatened to flood our market with goods manufactured at prices so low that no tariff could keep them out. As the result of the cotton textile industry's unofficial mission to Japan, a quota agreement was reached, limiting the volume from that country during 1937 to 155 million square yards. As matters have developed, the receipts from Japan during the first ten months of 1937 were 22% below the quota. It is estimated that total imports of cotton goods from all countries, including Japan, will aggregate 150 million square yards, or two and a half times the average of the previous 5 years.

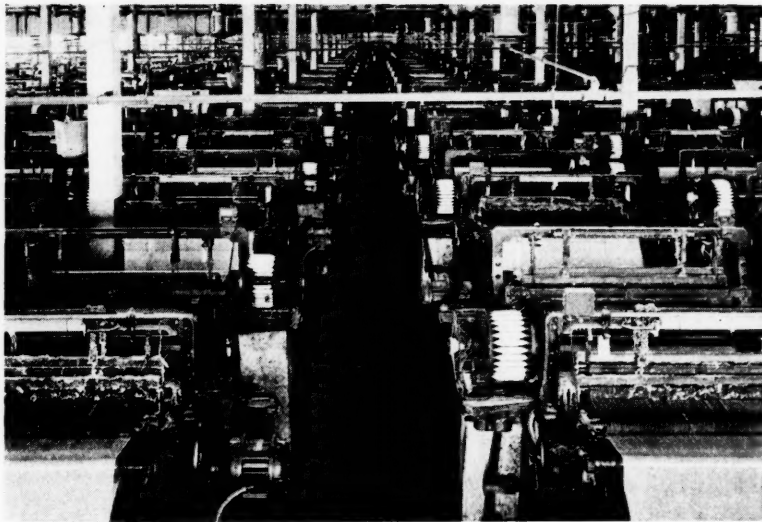
To anyone outside of the industry, it may seem incongruous that the quantity of cotton manufacturing machinery in place should actually diminish in a year of almost unprecedented production. The junking of machinery went on notwithstanding the heavy demand during the period January 1 to June 30, 1937. When the scale of cotton manufacturing activity was at a rate far above anything previously reached, 763,000 spindles went out of existence. The calendar year 1937 will have witnessed the disappearance of over a million spindles. The present number of spindles in place shows a decline in the last ten years of about 10 million spindles.

The mills were able to meet the heavy

Section of Weave Room, Carter Fabrics Corp., Greensboro, N. C.



MANUFACTURERS RECORD FOR



View of the Looms in Riverside and Dan River Cotton Mills, Danville, Va.

demand in 1937 by lengthening the running time of their remaining machinery. Active spindles at the peak of operations in 1937 averaged as high as 87 hours per week against an average per active spindle in 1936 of 77 hours, and in 1935 of 64 hours. The decline in spindles in place during 1937 occurred both in the cotton-growing states and in New England, although decline in the former was only 1% against 9% in New England states. In fact, in one southern state, Alabama, the number of spindles in place slightly increased.

Cotton mill wage rates in 1937 reached the highest level in the industry's history with the exception of the war years and a short period immediately thereafter. The 1937 average was 16% above that of 1936 and 13% above the rates prevailing during the N. R. A., according to data published by the U. S. Department of Labor. The present average of 42½¢ an hour for the industry as a whole yields a weekly wage for the standard work week of 40 hours of \$17.00. In 1929, the average weekly wage amounted to \$15.56 for about 48 hours' work. Present living costs are about 12% under 1929. Consequently, the real wages of cotton mill workers at the present time, on the shorter 40-hour work week basis, would be about 20% above the 1929 earnings for the longer week prevailing at that time. As a result, however, of the slackening of production schedules during the last few months owing to greatly reduced demand for cotton goods, weekly earnings have, of course, been reduced proportionately, although the hourly wage rates have been maintained.

Although the industry, as the year ends, is operating on reduced schedules, probably 40% under the peak in the first

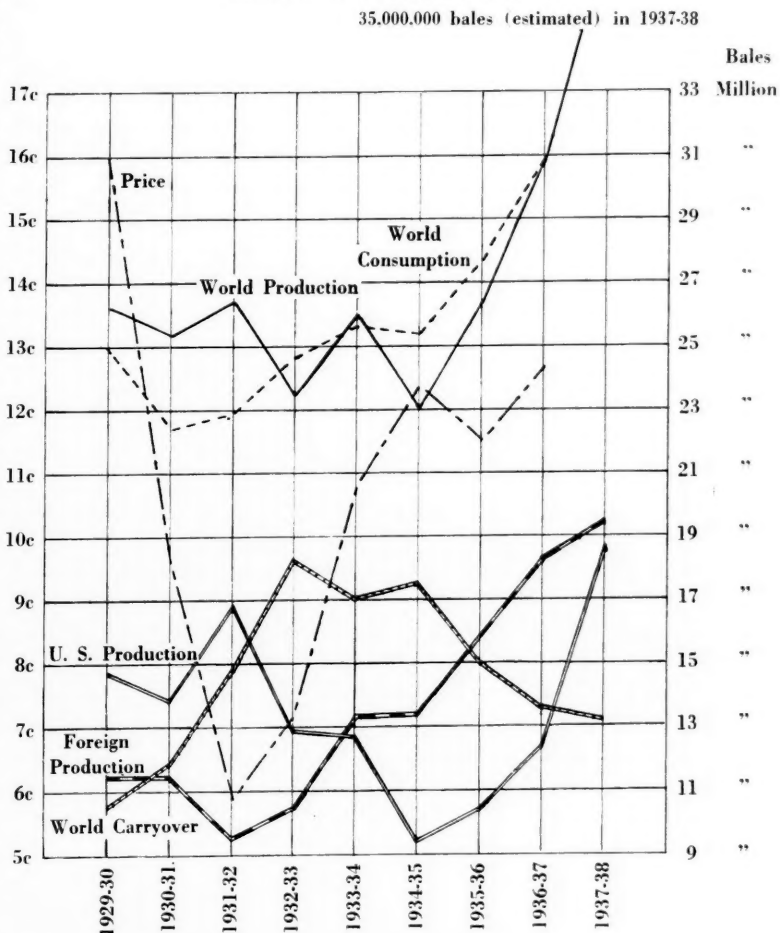
quarter, the average of employment throughout the year was exceptionally high. The Bureau of Labor Statistics reported that the peak was reached in April with 467,000 workers on cotton mill pay rolls. Final figures were not available when this was written, but it is esti-

mated that the average for the year will approximate 440,000, which would be 7% more than in 1936; 13% more than in 1935 and exceeding, in fact, any year since 1927.

Although the hours of spindle operation, as pointed out above, were greatly lengthened during 1937, the labor shift was in the vast majority of instances maintained on the basis of the former Code schedule of 40 hours a week. At the time of greatest activity, the average labor shift per week was 39 hours.

The fact that maintenance of high wage and hour standards by the industry as a whole has been wholly voluntary since invalidation of the N. R. A. Code cannot be over-emphasized. It lends much point to the recent statement of Labor Department officials, according to Washington dispatches, that the cotton industry has kept "well in advance of most other important industries in wages and hours." The 1937 record in this regard, particularly in the light of the trying experiences of the last half of the year, is a source of gratification to the industry. It should be a source of increased confidence for the industry's workers and customers as they look forward into 1938.

Cotton Statistics 1929-30 to Date



1937 CONSTRUCTION RECORD

Industrial Plants in the Lead

TWICE during this decade has construction activity in the Southern States attained peaks far above any that had previously occurred. The year 1937 did not quite reach the highest.

The total valuation of contracts placed in 1937 was \$810,055,000. This is a little less than fourteen per cent below 1936 which recorded an all time high. A former record year 1930 was followed by a thirty per cent decline.

A decided shift in the origin of expenditures for construction has been made since that time. In 1937 industrial and engineering projects occupied the premier position with a percentage of thirty-six. Private and public building work and highway construction each approximated nearly one-third of the balance of the total for the year.

Back in 1931 the bulk of construction contracts was formed by the forty-one per cent of roads and bridges and the thirty-one per cent of industrial and engineering projects. Public buildings, other than engineering and highway work, made up but fifteen per cent of the total, while private work was even lower with its eleven per cent.

The increase within recent years of in-

dustrial construction can be attributed to a greater recognition of the South's natural resources, particularly the forests and mines which yield the raw materials required for basic chemical manufacturing operations.

Much of the amount laid out for industrial construction has been spent in the chemical processing industries. It is reliably estimated that the expenditure within the past two years for expansion and new plants in this line has involved more than \$350,000,000, of which almost fifty-five per cent has been for projects in the Southern states.

This estimate is conservative as more than one hundred million dollars is represented by paper plant construction alone. Seventeen of these paper making enterprises have been announced. A number of them, including those at Crossett, Ark., Savannah, Ga., Georgetown, S. C., and Houston, Tex., have been completed. Others are nearing completion.

Underview of Roof Construction at Plant of Glenn L. Martin Co., Baltimore, Md.

Florida Gets Large Plants

Florida is the location of four paper plants now under construction. One is going up at Jacksonville, another at Port Saint Joe, and two are situated at Fernandina, which is the first town in the country to enjoy this prominence. One of the Fernandina plants is to be dedicated within the next few days. So important is the event considered that Gov. Fred P. Cone has proclaimed January 14 as "Florida Industries Day."

Louisiana's Industry Expands

Louisiana is another state alive to the potentialities of its natural assets. Under an industrial development program sponsored by Gov. Richard W. Leche, contracts have been signed with many industrial enterprises for plant construction and expansion or improvement altogether amounting to \$37,000,000.

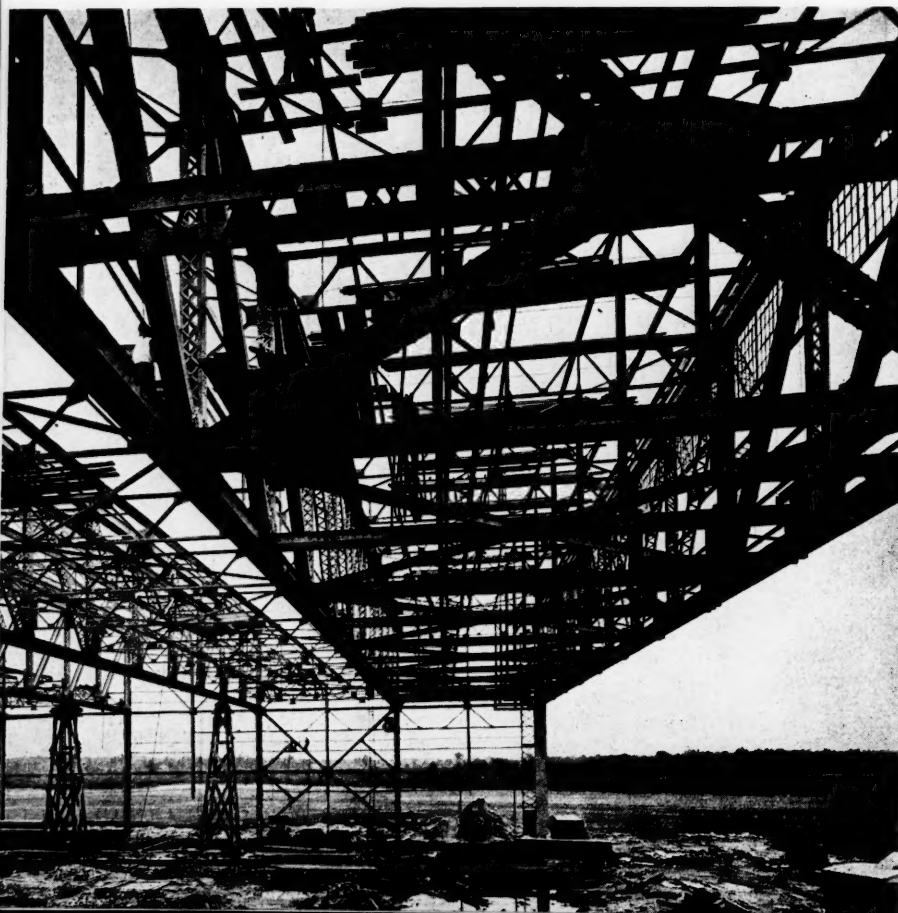
One of the largest recent contracts was that with the Mathieson Alkali Works. This organization will spend \$815,000 for readjustments at its Lake Charles plant to facilitate production of heavy chemicals that find their way into paper, textile, oil refining and many other phases of Southern industrial life. Another Louisiana project is that for a \$307,000 improvement of the Freeport Sulphur plant in Plaquemines Parish, south of New Orleans.

During this year six contracts signed with chemical industries under the Louisiana industrialization program have meant an investment of \$2,422,995 in new construction. Timber resources accounted for \$13,561,150 in new work, \$12,000,000 of which is represented by the huge mill being built at Springhill by the Southern Kraft Corp. The oil industry's contribution to this industrial growth is \$9,356,500, about \$7,000,000 of which is that expended at Baton Rouge for Standard Oil refining operations.

Louisiana industrial expansion has resulted in enlargement of two of the state's already large power plants. The Louisiana Steam Generating Co., is undertaking a \$3,000,000 expansion of a \$6,000,000 plant originally built six years ago to supply refinery power needs. A new generator and other facilities at the Arsenal Hill plant of the Southwestern Gas and Electric Co. at Shreveport will cost \$1,200,000.

Alabama's New Projects

Both northern and southern Alabama



have come in for shares in that state's new and expanding industries. The Tennessee Coal, Iron and Railroad Co., a United States Steel subsidiary, is now pushing its \$31,000,000 tin plate project at Birmingham along toward completion. Another United States Steel subsidiary, the Universal Atlas Cement Co., proceeded under its \$2,500,000 reconstruction program at Leeds, Ala. The electric furnace plant in Colbert County, in the northern part of the state will mean an investment of \$5,000,000 by the Electro-Metallurgical Corp., a subsidiary of the Union Carbide and Carbon Co.

Mobile, the chief Alabama seaport, this year has seen work started on four major industrial projects. The Aluminum Ore Co., subsidiary of the Aluminum Company of America, is carrying out construction of a \$4,000,000 plant to produce aluminum from ore brought from South American mines.

The National Gypsum Co. is constructing the first unit of a \$2,000,000 plant, which initially will produce insulation fiber board from ground wood pulp and later will be expanded to turn out other building materials. Meyercord Compound Lumber Co., affiliate of the Haskellite Manufacturing Corp., of Chicago, has practically completed its plant to manufacture built-up panels from imported hardwood.

Hollingsworth & Whitney Company's proposed paper and pulp mill is estimated to cost in the neighborhood of \$5,000,000 and for which a 100-acre site on the Mobile waterfront has been purchased. Improvements to the Birmingham plant of Armour & Co. were planned at a cost ranging between \$300,000 and \$350,000. Galloway Coal Co. started constructing its new mine in Walker County, at an expenditure of about \$300,000.

Activities In Tennessee

Following an agreement with the Tennessee Valley Authority for purchase of power, the Aluminum Company of Amer-

ica announced that \$15,000,000 would be spent for an expansion program at Alcoa. Additional facilities will be provided to produce virgin aluminum, additional fabricating units, electrical installations, housing facilities and other auxiliary equipment.

An investment of about \$1,000,000 is now being made for the new electric furnace of the Victor Chemical Works at Mount Pleasant, Tenn. The plant is located close to the company's phosphate rock deposits and will turn out elemental phosphorous to be shipped to its plant at Nashville for conversion into the various kinds of phosphoric acids and phosphates.

The Monsanto Chemical Co. has established new operations in Tennessee near Columbia, and expended millions of dollars in erecting one of the most modern plants for producing phosphorus from the deposits of its 2,000 acres of phosphate lands.

Virginia Developments

In Virginia the American Cellulose & Chemical Manufacturing Co. has started work on a plant, the first unit of which is estimated to involve expenditure of \$5,000,000 with the ultimate outlay to be more than \$30,000,000. Operations are located on a 1,200-acre site in Giles County, near Pearisburg.

Philip Morris & Co., Ltd., at Richmond, proceeded with a \$750,000 building program designed to relieve crowded conditions in its manufacturing operations in that city. The first unit has approximately 150,000 square feet of floor space. Southern States Cooperative, Inc., of Norfolk, built a \$300,000 fertilizer plant in the Money Point district to the south of the city. The Ford Motor Co. announced and started construction on a \$500,000 addition to its Tidewater assembly plant at Norfolk. The new facilities

New Tin Plate Mill for Tennessee Coal, Iron & Railroad Co., at Birmingham, Ala.

increase the plant's capacity to a total of 400 cars daily.

The Duplan Silk Corp. made plans for a \$550,000 weaving plant at Grottoes, north of Waynesboro, Va. At Nitro, W. Va., the American Viscose Corp., the world's largest producer of rayon, completed the first plant constructed in the country for the exclusive production of rayon staple fiber. The Viscose Corp. announced a \$1,000,000 project for Front Royal, Va.

Texas Oil Plants and Others

Texas was the scene of numerous oil refinery projects. The Texas Company let the contract for a \$2,000,000 atmospheric and vacuum pipe still unit at Port Neches. Gulf Oil Corp. was active on a \$1,000,000 expansion of its plant at Port Arthur to produce a special aviation gasoline. The Atlantic Refining Co. completed a \$6,000,000 construction program at Atreco, on the Neches River, near Port Arthur. Phillips Petroleum Co. had plans for a \$1,750,000 casinghead gasoline plant near Goldsmith. The Pure Oil Co. completed its \$1,500,000 combination topping and cracking unit at Smith's Bluff, near Port Arthur. Panhandle Eastern Pipe Line Company completed a \$12,000,000 construction program.

Other industries also initiated programs of construction in Texas involving many millions of dollars. One of these was the American Can Co., which let contract for a \$1,500,000 plant at Houston. The South's only new cement plant of the year was completed at Houston by the Gulf Portland Cement Co., at a cost of \$400,000. The South's first newsprint mill is expected to locate in East Texas.

Work was started by the Southern Alkali Corp. on a \$1,000,000 salt by-product and electrolytic chlorine unit at Corpus Christi. Armour & Co. made known plans for a \$1,000,000 packing plant project at Houston. Southwestern Bell Telephone Co. made awards for ex-

(Continued on page 40)



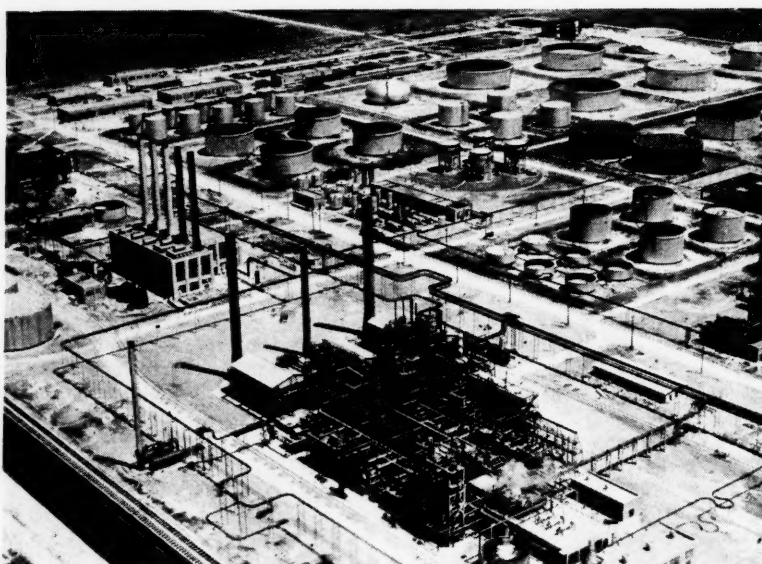
Petroleum Prosperity.

in the South

BY

Victor H. Seales

Director of Public Relations, American Petroleum Institute



The World's Largest Refining Unit, American Oil Co., Texas City, Texas

PETROLEUM, most important factor next to agriculture in the economic life of the South, in 1937 as never before held the center of the stage in southern industrial development. In a year during which industry in general strove to attain production levels that obtained prior to the depression, the petroleum industry in virtually all of its manifold operations surpassed the peaks of 1929 to establish unprecedented records in the production and distribution of its products, as well as in employment, wage payments, and in purchases from other industries. It was a source of pride to the industry that this fast pace failed to upset the equilibrium of operations.

Production

Statistics show that the South is the world's most generously blessed oil-producing region. Last year this area produced an estimated 862,730,000 barrels of petroleum, or approximately two-thirds of the United States total production. Compared with 1936 this represents an increase of 17.5 per cent, while production in all other oil-producing states showed a gain of 14.4 per cent. In the boom year of 1929 southern states produced 610,719,000 barrels of crude oil; thus 1937 production was more than 41 per cent above the 1929 level.

Drilling Activity

Of the estimated 32,500 wells completed in the United States last year, three-fifths were located in the South. Texas, Oklahoma, and Louisiana alone accounted for 18,028 completions. Approximately 13,500 of these were product-

ive of oil, while nearly 700 were "gas-sers." Some 3,800 tests turned out to be "dry holes."

Supplies and materials of many categories are needed to drill a well and last year business was decidedly good in this line. Retail merchants and store owners of every description profited as well, because last year they had more customers than ever before with greater purchasing power among oil field workers.

Another development, especially significant in the South, that should be mentioned in this connection, is deep drilling. Whereas a relatively short time ago wells running to depths of 6,000 to 8,000 feet were considered deep, improved drilling technique now makes it possible to penetrate to depths of two miles. In the Texas and Louisiana Gulf Coast region and in West Texas are located some of the earliest deep tests. The first commercial producer of more than 10,000 feet deep ever to be completed was "brought in" in January, 1937 in Jefferson Parish, Louisiana Gulf Coast. The deepest test ever drilled is located in Upton County, West Texas. It was completed in May, 1935 at a depth of 12,786 feet. This development is of importance because it makes available for use stores of crude oil that could not be tapped with old drilling methods. Thus it will undoubtedly lengthen the life of southern petroleum reserves.

Crude Prices

On January 28, 1937 the price of crude, which had been \$1.10 per barrel for basic

grades since January 9, 1936, was raised to \$1.22 per barrel. The effect of this increase was to add approximately 11 per cent to revenue derived by producing states from crude oil. It is estimated that crude oil produced in the South last year had an economic value to the six producing states of approximately \$1,000,000,000.

Refining

In the South logically are located some of the nation's greatest refining centers. Approximately 175 refining plants operating in this region last year accounted for an estimated 550,000,000 barrels of crude oil run to stills, or 47 per cent of the total quantity run in the United States. Compared with 1936, when southern refineries processed 477,118,000 barrels of crude, this was an increase of more than 15 per cent.

Total production of motor fuel in the United States last year is estimated at 555,000,000 barrels, an all-time high. Southern refineries accounted for approximately 240,000,000 barrels. The nation's output of gas oil and fuel oil rose to 442,000,000 barrels, with refineries in southern states contributing an estimated 45 per cent of this quantity.

Besides these two most important products, practically all of the other 300 odd derivatives of petroleum participated in the rise in demand; hence were produced in greater quantity than ever before. Petroleum refining has always been one of the leading manufacturing industries of the South. Last year this was

true to a greater degree than ever before. Total value of last year's aggregate output of southern refineries should closely approach the \$1,000,000,000 mark.

While the total number of refineries operating in the South showed virtually no increase over last year, oil companies nevertheless spent millions of dollars in refinery construction, mostly in additions to existing plants and in modernization of obsolete equipment. Petroleum research is constantly developing improved equipment for processing crude oil, thereby necessitating frequent modernization of plants.

Marketing and Prices

Preliminary figures indicate that motor activities in the South last year were at an all-time high. Nearly 8,000,000 southern car and truck owners last year bought sufficient gasoline to propel their vehicles an aggregate distance of 87,000,000,000 miles. Motor fuel consumption, estimated at 5,789,000,000 gallons for the year, was 10 per cent ahead of 1936, the previous peak year.

An accelerated pace in southern industry, commerce, transportation, and agriculture contributed to the rise in demand for petroleum products essential in these fields. Well over 100,000,000 barrels of fuel oil last year generated steam and electricity for southern manufacturing plants, railroads, and marine transportation. This product was also used to some extent in the heating of homes and public buildings, and by oil companies in their own operations. Farmers are dependent upon petroleum products in a number of ways, ranging from insect control to power generation, and from lubrication of farm machinery to lighting the farm home.

Despite this unprecedented demand, taxing distribution facilities to the full, the industry's marketing division was able to provide motorists and other users of petroleum products with the same smooth and uninterrupted service to which they have long been accustomed. Some 10,000 petroleum wholesalers and approximately 70,000 service stations function in the South to provide consumers with petroleum service. These establishments, incidentally, constitute an important segment of southern business, accounting for approximately 10 per cent of the total dollar volume of all retail and wholesale trade.

Consumers of petroleum products last year continued to enjoy the benefit of progress in the science of producing and refining of petroleum. This progress has been the prime factor in keeping petroleum prices at low levels. The wholesale price level of petroleum products, according to the U. S. Bureau of Labor Statistics, still remains at about 40 per cent below normal, virtually unchanged from a year ago. Wholesale prices of all com-

modities, on the other hand, have advanced to within 12 per cent of normal, rising approximately 10 per cent during the first seven months of 1937. Petroleum product prices for years have been relatively lower than the general price level.

Reductions in the price of gasoline, aggregating 50 per cent over the past 17 years, literally are saving motorists billions of dollars annually. While 1937 was marked by appreciable retail price increases for most every-day necessities, the price of gasoline **remained** virtually unchanged from last year. This is the more remarkable because of the increased demand for motor fuel that prevailed throughout the year.

Taxation

Motorists, unfortunately, are not left to enjoy the full benefit of these savings. This is especially true in the South where sales taxes on gasoline average higher than in any other section of the country. In the South are located the only three states in the nation imposing a 7c per gallon state tax on motor fuel. To this must be added the 1c per gallon federal tax. Other southern states have gasoline levies ranging from 4 to 6½c per gallon. Thus southern motorists find that taxes add as much as, and in some cases more than, 50 per cent to the cost of their motor fuel.

The 1937 state gasoline tax cost to southern motorists totaled an estimated \$263,925,000. This was an increase of \$30,000,000 over the cost of these taxes in the previous year, and nearly \$60,000,000 over 1935. These figures indicate that rates could be reduced and adequate revenue would still accrue to the states for highway work. However, in many southern states, gasoline tax monies, originally intended for highway construction and maintenance, are sidetracked to finance purposes unrelated to highways. This practice imposes a disproportionate tax burden upon the owner of a motor vehicle who, by the way, in a majority of cases is an individual earning between \$20 to \$30 per week and therefore no better able to pay than his non-motorist neighbor.

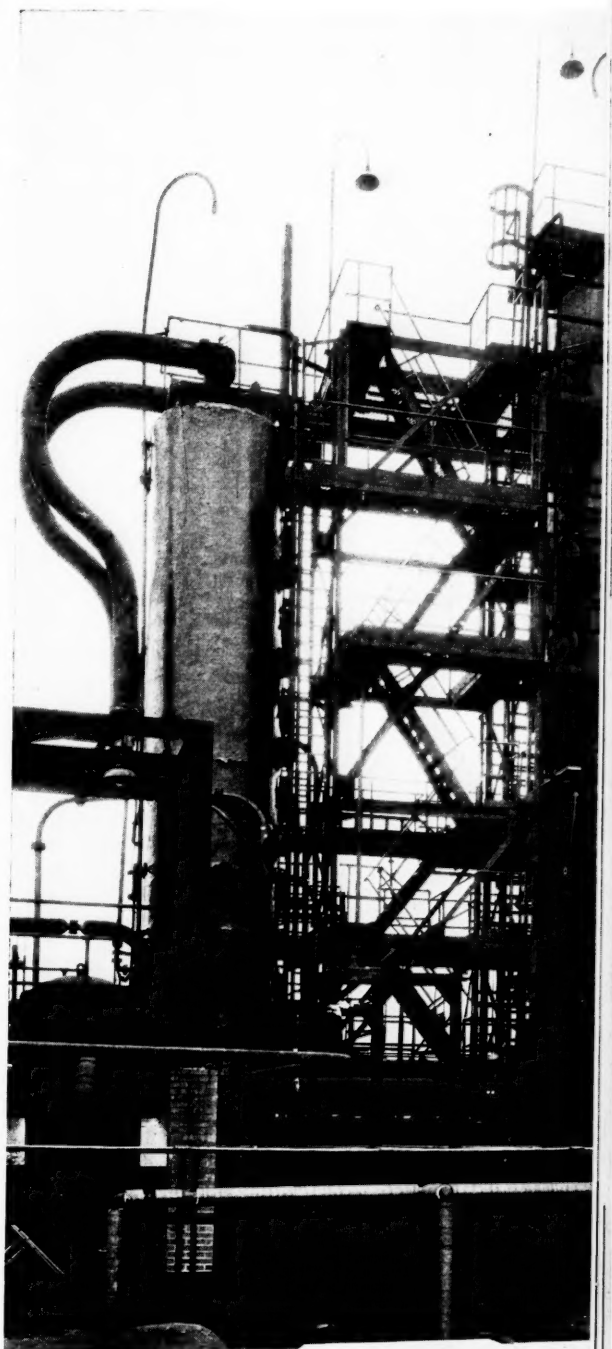
To southern oil producing states rich revenue also accrues from the production of crude oil. In Texas alone, it is estimated, oil producers last year paid more than \$42,000,000 in taxes to the state and counties. This amount was equal to 42 per

cent of the total state and county tax bill. Oklahoma, last year, collected an estimated \$13,600,000 in severance taxes, up more than \$4,000,000 from the previous year. The average production tax per barrel of crude produced in Texas last year was 8.5c, and in some counties of the state it ran as high as 14c.

Economic Aspects of Taxation

The petroleum industry's total invest-

(Continued on page 68)



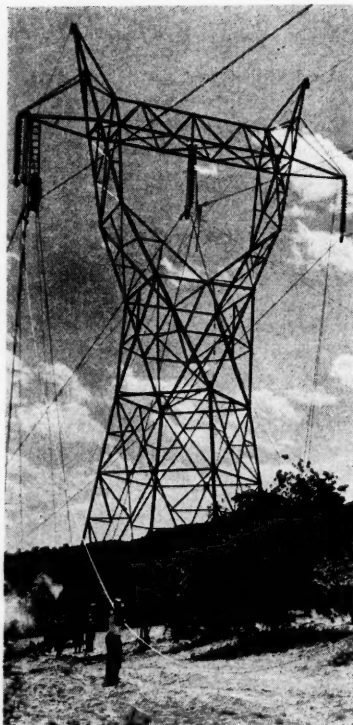
The Electric Light and Power Industry in 1937

ELECTRIC power output set a new high record in the South during 1937, reaching a total of nearly 27 billion kwhr., representing an increase of 12% over that of the previous year as compared with an increase of only 8½% for the entire country, which reached a total of 119 billion kwhr. The country's production by water power was 40 billion kwhr., and by fuels 74 billion kwhr., while power imported from Canada and purchased from other sources was 5 billion kwhr.

The highest weekly production, which usually occurs the week before Christmas, occurred this year in the last week of August. This was due primarily to the industrial recession in the later months of the year, but it reflects also the influence of the large refrigeration and air conditioning load that has developed in recent years.

Generating capacity at the close of 1937 was estimated at 35,042,000 kilowatts, of which 9,617,000 kw., or 27½ per cent, was in water power plants, 24,745,000 kw. in steam stations and 680,000 internal combustion engines. The installed capacity of electric generators in the South was 8,286,100 kw., an increase of 111,157 kw. over 1936. New construction in the entire country during the year comprised 1,050,000 kw. of additional power generating machinery, which was, in part, offset by the retirement of 268,000 kw. of older equipment, leaving a net increase of 782,000 kw. added to the electric utility power plants for the year 1937.

Total construction expenditures for 1937 (exclusive of Federal work) were estimated at \$455,480,000, a large increase over the \$289,710,000 spent during the previous year, but still less than one-half of the expenditures during the peak year of 1930. Of the 1937 total, the expenditures for distribution poles, wires and equipment again constituted the largest item, being \$203,250,000 or nearly one-half of the entire amount. Expenditures for steam generating stations totaled \$113,060,000 or 24½ per cent



BY

C. W. Kellogg

President, Edison Electric Institute

while expenditures for hydroelectric plants again were negligible, costing only \$10,540,000.

Some 27,000,000 customers are now receiving electric service, over 5,000,000 of whom are in the Southern States. This represents an increase of 794,000 during the year and 272,000 in the South. Of those newly connected, about 157,000 were farms, bringing the total number of farms supplied with electricity to 1,200,000 at the end of 1937. This represents about 19 per cent of all farms having occupied dwellings and some 28 per cent of all farms which have dwellings valued at more than \$500. It is estimated that existing electric power lines reach an additional 280,000 farms which do not

take service, making a total to which service is available of about 1,480,000.

Sales of electricity to all ultimate consumers amounted to 99,300,000,000 kilowatt hours compared with 90,044,000,000 kilowatt hours in 1936, an increase of 10.3 per cent. Farm consumption increase 24.4 per cent, residential consumption 12.9 per cent and commercial and industrial use 10.6 per cent.

Total revenues from sales of electricity aggregated \$2,200,000,000 compared to \$2,044,500,000 in 1936, an increase of \$155,500,000. The industry's consumers received 10 per cent more electricity, and they paid only 7.6 per cent more for their service in 1937 than in the preceding year.

Increased costs absorbed a large part of the increase in revenue. A substantial increase in taxes, in wages and in fuel costs was experienced. Taxes paid by power companies were in excess of \$300,000,000, or 15 cents per dollar of their gross revenue.

Revenues per kwhr. for all classes of service were 2.22¢ in 1937, compared with 2.27¢ in 1936.

Of the total sales of electricity, large industrial and commercial users took 52,640,000,000 kwhr. or 53 per cent. Small light and power customers used 18,410,000,000 kwhr., while residential customers took 16,930,000,000 kwhr.

The post-war growth of electricity used in the home continued last year at an accelerated rate. The annual use per residential customer in 1937 was 797 kwhr., or nearly 10 per cent above the 727 kwhr. consumed by these customers in 1936. The annual revenue per kwhr. for residence use has continued to decline to 4.37 cents, compared with 4.65 cents in 1936, or a decrease of 6 per cent, which is the average rate of decline during the past several years. At the close of 1937, the unit cost of electricity in the average home was almost exactly one-half of what it was in 1913, although the cost of living is almost one-half as much again at the present time as it was before the war.

In 1927 the average residential customer paid \$30.19 for 444 kwhr. In 1937 he paid \$34.83 for 797 kwhr. He is receiving 353 kwhr. more per year and paying only \$4.64 for it. This incremental cost to him for the additional energy is thus only 1½ cents per kwhr.

Shipbuilding in the South During 1937

BY

H. Gerrish Smith,

President, National Council of American Shipbuilders

PROBABLY no industry gives a greater spread to labor employment than the shipbuilding industry. Within the shipyard itself there are no less than twenty-five trades regularly employed; in addition, several employees in other trades are required from time to time on special work.

Only from 40 to 50 percent of the total cost of a ship is expended within the shipyard. The remaining cost is a distributive charge throughout a broad area covering the materials and equipment involved in shipbuilding. A ship is a specialty job with a diversity of structural characteristics and totally unlike a multiple production article like automobiles, farm machinery, sewing machines and other similar mass production products. The result is that the shipbuilding industry requires at all times a larger total percentage of skilled mechanics than is applicable to any mass production industry where there are so many repeat operations by the employees.

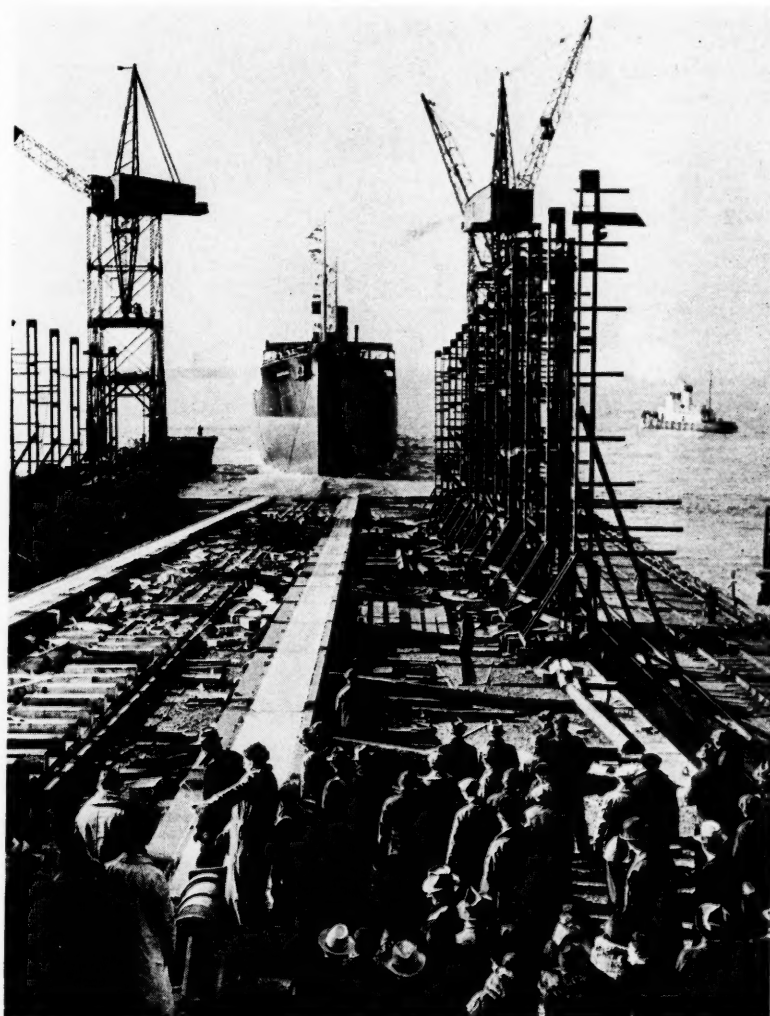
One of the outstanding events of interest to the industry in 1937 was the appointment of a Maritime Commission under the Merchant Marine Act of 1936, whose prime function is to find ways and means to develop and maintain under the provisions of the Act a merchant marine to carry a substantial part of the export and import commodities of the United States to and from foreign ports. There has not as yet developed any probability of much new construction by private ship operators under the Act, as they are faced with a change from the subsidy provisions of the Merchant Marine Act of 1928 to the new provisions of the Act of 1936, and during the transition period it is natural to expect little new construction. Up to date, under the Act, one contract has been placed for a new vessel for the United States Lines to supplement the services of the "Manhattan" and "Washington" now operating to European ports. No other building for foreign trade by ship owners is in prospect.

Vessels now operating in our foreign trade are mostly wartime built and are nearly obsolescent. With a view, therefore, to starting a shipbuilding program the Maritime Commission has called for bids for 12 fast, single-screw steel cargo

(Continued on page 65)

COMMERCIAL VESSELS OF 100 GROSS TONS AND OVER UNDER CONSTRUCTION IN THE SOUTH ON DECEMBER 1, 1937

Yard	Class of Vessel	Gross Tons
Alabama DD & SB Co.	1 Oil Barge	445
Canulette SB Co.	1 Towboat	600
Levingston SB Co.	6 Oil Barges	865
Levingston SB Co.	2 Tugs	200
Pennsylvania Shipyards	1 Oil Tank	1,520
Bethlehem SB Corp. (Sparrows Point) ...	7 Tankers	52,600
Charleston Shipbuilding & DD	2 Trawlers	610
Maryland Drydock Co.	1 Ferryboat	1,200
Newport News SB & DD Co.	2 Tugs	720
Newport News SB & DD Co.	1 Oil Tanker	1,620
Newport News SB & DD Co.	1 Pass. Vessel	24,800
Total	25 Vessels	85,180 Gross Tons



The Launching of the S. S. Gulfdisc at Sparrows Point, Md.

The Southern Pine Lumber Industry in 1937

THE Southern Pine Industry, like most other major industries, is having its ups and downs. A wave of buying in late 1936 and early 1937 sent demand soaring to its highest level since 1929. By June of 1937 demand had eased off to 1935 levels, and it has since then functioned at a rate about 15% below the corresponding period of 1936.

Production, geared early in the year to what seemed to be a sustained large demand, has exceeded orders in all months of this year except January, February and August. Current output in the industry is down 5% from January and is off about 15% from the last quarter of 1936. It is down 40% from the average for 1929. Despite this curtailment, the reduction has not been quite large enough to absorb the lag in demand.

Southern Pine production in 1937 will reach a total of approximately 7,200,000,000 ft., an increase of 1.5% over the 1936 total output of 7,113,000,000 ft. and the largest output for any year since 1930. It will be about 3.4% under the 1930 total of 7,450,238,000 ft., and 38% below the 1929 total of 11,629,689,000 ft.

Orders booked by the Southern Pine Industry during 1937 will aggregate probably 6,800,000,000 ft., or 5.6% less than the total production this year. This will be a decrease in demand of about 8% from the 1936 total of 7,380,000,000 ft., and with that exception the largest since 1929. Compared to the 1929 total of 11,294,754,000 ft., it will be a decrease of 40%.

Shipments made by the Southern Pine industry during 1937 are expected to total 7,000,000,000 ft., or about 3% less than the total production this year and 3% better than the aggregate demand for the year. Excepting 1936, shipments will be the largest since 1930. They will fall about 3% under the 1936 total of 7,235,000,000 ft.; about 1% under the 1930 total of 7,055,375,000 ft.; about 38% under the 1929 total of 11,333,132,000 ft.

The industry will close the year with stocks on hand aggregating probably 2,000,000,000 ft. This will be a slight decrease from October 1, when stocks reached 2,059,000,000 ft., the highest point

for this year; but it will be an increase of 11% over the total inventory of 1,805,000,000 ft. registered on January 1, 1937. It will be about 30% below the average inventory for 1929, and 42% below the record peak stocks of 3,458,420,000 ft. on January 1, 1931.



A view of the Southern Railroad's experimental Pine forest at Pregnall, S. C.

The total actual consumption of Southern Pine in 1937 is estimated at 6,882,000,000 ft., or 4.4% less than the total production that year, distributed as follows:

	Board Feet	Percent
Building Construction	5,104,000,000	74.1
Boxes and Crates	747,000,000	10.9

BY

H. C. Berckes.

Secretary-Manager, Southern Pine Association

Railroads	500,000,000	7.3
Fabricating	165,000,000	2.4
Export	386,000,000	5.5
Total	6,882,000,000	100.0

This compares to a total consumption in 1936 of 6,811,000,000 ft. The gain in total consumption over 1936 is 1%; building and construction consumption gained 2%; boxes and crates increased 2%; railroads declined 10%; fabricating declined six-tenths of 1%; and exports gained 6%. Southern Pine represented 34% of all softwood consumption in 1937, and 28.4% of total lumber consumption.

In spite of the business retreat, the Southern Pine industry continues to enjoy a relatively sound statistical position. Production is gradually stabilizing at demand levels; orders are being shipped out promptly; and stocks are not above normal levels. The most stubborn problem now before the industry, undoubtedly, is to find ways and means of netting a price that will return some nominal profit in the face of gradually rising costs. Current f. o. b. mill prices, at representative large operations in the industry, average less than \$24.00 per M ft. This is about 8% below the Code minimum level of \$25.78, and is below the current level of costs. Many large mills, according to the best available information, will net less than a 10% return on sales price for the year as a whole, despite the good prices which prevailed through May of 1937. The increase in large mill price from January to May was about 16%; the decline from May to December about 26%.

Confronted with a gradually increasing burden of fixed costs and no assurance that competitive markets will pay the price needed to absorb these increased costs, the industry is in no position to withstand revolutionary adjustments that will freeze its costs at prohibitively high levels and dry up its demand.

Residential construction, upon which the Southern Pine industry depends normally to consume close to 70% of its production, continues to lag sharply behind 1929 and preceding years. While the

(Continued on page 62)

The Value of the Cottonseed Crop-1937

BY

S. M. Harmon

*Secretary
National Cottonseed Products
Association*

THE size and value of the cottonseed crop are of unusual importance in the Cotton Belt. This is especially true in sections where cotton is practically the only cash crop planted. To thousands of tenant farmers and small land owners, "seed money" assumes a significance entirely out of proportion to the actual values involved.

Hence, when cottonseed prices are good and supplies generous, real prosperity prevails throughout a large part of the cotton States. This is particularly true during the early Fall when many thousands of people are engaged in harvesting the crop and preparing it for market. Cottonseed furnishes an immediate income that is as liquid as water and as widely spread as an Ohio River flood in January.

Cottonseed ranks fourth in volume and farm value among the American grain and seed crops, being exceeded only by corn, wheat and oats. It is not outranked by any grain, bean or seed in its diverse utility. From cottonseed's outer covering, lint, to the kernel, rich in fats and proteins, every part of this valuable seed is useful to mankind.

The 1937-1938 crop of cottonseed exceeds in volume any other crop on record and the farm value will about equal the past 15-year average. The 18 and three-quarter million bale cotton crop will produce some 8,300,000 tons of seed, and the total farm value should approximate 190 million dollars. From this enormous cottonseed crop the cottonseed oil mills should crush about six million tons, from which should ensue approximately one billion, eight hundred million pounds of crude oil, which will be converted into about one billion, six hundred million pounds of edible refined cottonseed oil. Production of cottonseed cake and meal will be close to two million, seven hundred thousand tons, while production of cottonseed hulls will be more than a million, five hundred thousand tons, and lint should total over one and a quarter million bales of an average weight of 600 pounds.

Cottonseed oil is the most valuable by-product of cottonseed. The refined oil is one of the most important food fats pro-

Production and Farm Value of Cottonseed for 7-season period, 1930-1931 to 1936-1937, inclusive, and estimated production and farm value for season of 1937-1938.*

Season of	Tons Seed Produced	Bushels Produced	Farm Value	Tons Seed Crushed	Value Products Produced
1930-1931	6,191,000	386,875,000	135,778,000	4,715,000	169,704,000
1931-1932	7,604,000	475,250,000	72,412,000	5,328,000	102,548,000
1932-1933	5,784,000	361,438,000	59,888,000	4,621,000	87,313,000
1933-1934	5,806,000	362,750,000	82,508,000	4,157,000	111,925,000
1934-1935	4,282,000	267,625,000	148,891,000	3,550,000	177,738,000
1935-1936	4,729,000	298,437,000	147,483,000	3,818,000	167,745,000
1936-1937	5,513,000	344,563,000	195,195,000	4,498,000	229,183,000
7-Yr. Aver.	5,701,000	356,702,000	120,308,000	4,384,000	149,451,000
1937-1938*	8,300,000	520,000,000	160,000,000	6,000,000	192,000,000

Factory Consumption of Refined Cottonseed Oil in the Manufacture of Food Products During Five-Year Period, 1932 to 1936. Compiled from Releases by the Bureau of the Census.†

Year	Pounds Shortening	Pounds Margarine	Pounds Other Edible Products	Total Pounds
1932	834,367,000	15,096,000	100,129,000	949,592,000
1933	852,843,000	17,997,000	121,558,000	992,398,000
1934	1,058,733,000	54,778,000	155,343,000	1,268,854,000
1935	991,798,000	99,505,000	138,580,000	1,229,883,000
1936	918,866,000	108,106,000	178,330,000	1,205,302,000
5-Yr. Aver.	931,321,000	59,096,000	138,788,000	1,129,205,000

duced on American farms, being exceeded in volume only by butter and lard. Average production of refined cottonseed oil in this country is approximately one billion, three hundred million pounds annually, most of which goes into such food products as shortening, salad and cooking oils, and margarine.

Prior to 1921, large quantities of cottonseed oil were exported. Since that time exports have dwindled so rapidly that they have practically disappeared. In fact, due in part to the reduction of cotton production, fully two hundred million pounds of cottonseed oil were imported during 1937.

Shortening has long been the chief outlet for refined cottonseed oil, taking about 85 percent of production. The enormous increase in production of shortening for the past three years insures a ready market for even the present large production of cottonseed oil. For the past three years manufactured shortening has averaged

over one billion, five hundred million pounds. The cottonseed crushing industry is always seeking new outlets for its products, and conforming to this policy, began a campaign about five years ago to have the use of cottonseed oil in the manufacture of margarine increased. That this effort has been successful, despite the many Federal and State laws which unjustly discriminate against margarine by imposition of excise taxes on a splendid food produced from the products of American farms, I have but to mention that the consumption of cottonseed oil in the manufacture of margarine has increased from 15 million pounds in 1932 to 200 million pounds in 1937. In the month of October, 1937, more than 20 million pounds of refined cottonseed oil were consumed in producing margarine.

When we shall have succeeded in having all State and Federal laws repealed which discriminate against cottonseed and other American farm products, we shall have gone a long way toward solving one of the farm problems in the Cotton Belt. Restrictions against a free market for cottonseed oil undoubtedly limit the price the cotton farmer receives for his seed, and limit his opportunity for a more abundant life.

* Table compiled from releases by the United States Department of Agriculture and United States Department of Commerce.

† Estimated.

‡ Does not include cottonseed oil sold in refined state for salad and cooking oils, which probably approximate 100 million or more pounds annually.

Fertilizer in the South in 1937

By

Charles J. Brand

*Executive Secretary and Treasurer,
The National Fertilizer Association*

THE cotton crop generally uses in the neighborhood of 30 per cent of the total fertilizer consumption of the United States. This year's crop of approximately 18,750,000 bales exceeds the largest previous crop in our history. Inevitably prices have fallen and middling cotton is selling at less than 8 cents a pound, New York basis. The crop is roughly 6,000,000 bales greater than the 1936 crop. Prices for that crop were in the neighborhood of 12 cents.

The Southeastern States of North Carolina, South Carolina, Georgia, Florida, and Alabama use 50 per cent of our entire annual fertilizer tonnage. It takes 43 other states to equal them. North Carolina is the premier state in applying commercial plant food, and its average cotton yield in the past ten years of 282 pounds, compared with the average for the whole Cotton Belt for the same period of 190 pounds reflects the advantage of fertilization.

In 1910 United States consumption of fertilizer amounted to almost 5,500,000 tons, containing an average of about 15 per cent of plant food. In 1937 consumption is approximately 8,000,000 tons, a regain from the depression low of 4,300,000 tons in 1932. The plant food content this year no doubt averages between 18 and 19 per cent.

The tobacco crop is one of the most important consumers of fertilizer. North Carolina is the most important tobacco-producing state. Tobacco farmers in that state up to December 1 of this year had sold \$133,000,000 worth of this year's crop, which was \$41,000,000 more than they had received last year up to the same date.

The record breaking 1937 cotton crop will undoubtedly have considerable influence on fertilizer consumption in the

Southern States in 1938. If any program of cotton acreage curtailment is put into effect as now seems probable, the tonnage of cotton fertilizer possibly will be correspondingly reduced. However, it must be recognized that part of the acres taken out of cotton production will in all probability be planted to other fertilized crops. Some reduction in fertilizer tonnage in 1938 from that of 1937 may be expected but probably not to the extent that cotton acreage is reduced, as there will be some substitute planting of other crops which to some extent at least will also be fertilized.

Total cash income in the 12 Southern States for the first 10 months of 1937 amounted to \$1,652,735,000 as compared with \$1,383,693,000 in the same period in 1936, an increase of 19 per cent. Government payments increased to \$129,872,000 in the first 10 months of 1937 from \$75,440,000 paid in 1936, an increase of 72 per cent. Fertilizer consumption as a rule closely follows farm cash income.

CASH FARM INCOME IN THE SOUTH INCLUDING GOVERNMENT PAYMENTS †

January-October Period of Each Year (Thousands of Dollars)			
	1935	1936	1937
Virginia	77,992	79,352	86,280
North Carolina ..	163,918	153,374	188,523
South Carolina ..	75,938	70,513	81,742
Georgia	96,236	111,692	114,822
Florida	72,917	80,906	105,971
Alabama	82,590	80,215	102,695
Mississippi	98,319	100,923	124,679
Tennessee	83,313	81,014	101,611
Arkansas	83,536	79,163	100,567
Louisiana	82,654	66,747	80,051
Texas	309,319	349,806	414,249
Oklahoma	128,929	120,988	151,545
Kentucky	103,214	85,679	124,443
Maryland	52,223	55,864	65,373
Missouri	197,071	208,942	227,415
West Virginia ..	28,269	28,069	31,482
Total 16 States ..	1,736,638	1,762,277	2,101,448

Fertilizer consumption in the Southern States as indicated by tag sales shows an increase of 24 per cent for the first 10 months of 1937 as compared with the same period of 1936. Such an increase is of course unusual and it cannot be expected that a proportional increase will be realized in 1938. In fact, some decrease from the 1937 figures is to be expected. These 16 Southern States last

† Source: U. S. Department of Agriculture.

Fifty per cent of the country's entire annual fertilizer tonnage is consumed in the South

year consumed a little over 64 per cent of the nation's fertilizer tonnage.

FERTILIZER CONSUMPTION IN THE SOUTH BASED ON THE SALE OF TAX TAGS

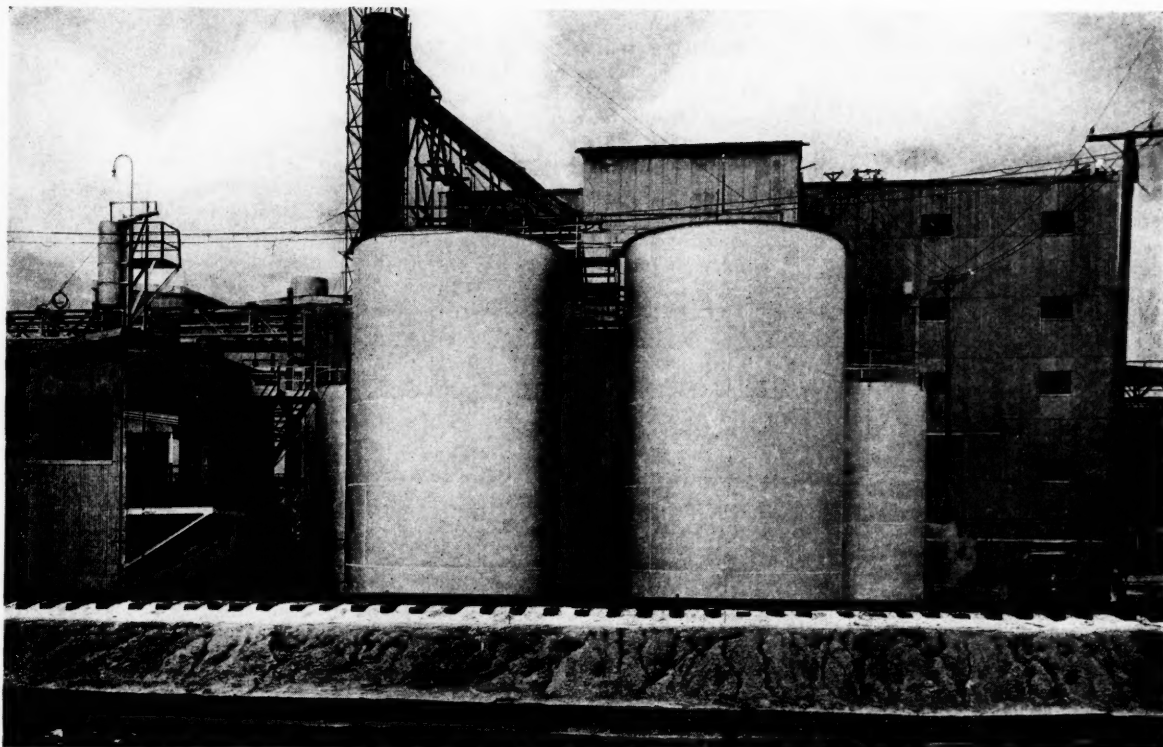
January-November Period of Each Year			
	1935	1936	1937
Virginia	369,318	376,453	434,068
North Carolina ..	968,091	989,603	1,166,399
South Carolina ..	603,673	606,064	756,888
Georgia	614,839	674,050	853,115
Florida	367,313	444,112	511,679
Alabama	416,900	466,400	620,910
Mississippi	207,015	233,663	324,450
Tennessee	96,444	117,138	141,325
Arkansas	37,393	45,431	68,175
Louisiana	89,142	111,356	155,668
Texas	59,497	62,309	87,614
Oklahoma	6,619	6,055	6,845
Kentucky	73,462	89,392	117,078
Maryland*	163,843	163,817	172,000
Missouri	59,398	93,498	82,440
West Virginia* ..	54,000	54,000	56,000
Total 16 States ..	4,186,947	4,533,341	5,554,063

* Estimated.

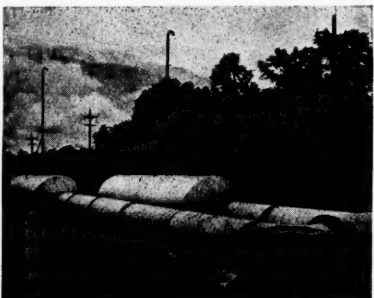
Farm legislation now before the Congress or to be introduced may materially affect fertilizer consumption. Continuance of the program for making payments for planting soil conserving crops, pasture and hayland development may partially offset the loss of tonnage that would have been used on the acres taken out of major crop production.

Employment in the industry may be materially influenced by wage and hour legislation, both State and national. The seasonal nature of the fertilizer shipping season makes the observance of any regulation as to maximum hours of labor extremely difficult. It is to be hoped that any such legislation will exempt employees in the fertilizer industry as to maximum hours of labor during the rush of planting season, so that farmers may obtain their fertilizer without delay when weather conditions dictate.

No prediction as to 1938 operations can be more than the merest guess until something is known of the labor and farm legislation now pending in Congress. Well-informed observers in the industry believe that fertilizer consumption will be between 10 and 15 per cent less than in 1937.



10 ft. diameter by 15 ft. pressure service tank and 10 ft. diameter by 40 ft. surge tank of welded construction.



Two 10 ft. diameter by 30 ft. pressure screen tanks in the 48-in. water supply line.

WELDED STEEL TANKS for Paper Mill Service

The West Virginia Pulp & Paper Company utilizes the modern plant illustrated above to treat boiler feed water at its new Charleston, S. C. mill. The raw water, after being treated with ferric sulphate, passes through the two upward-flow mixing, coagulating and settling tanks in the foreground to an aerator. From there it flows into three pressure filter and storage units behind the settling tanks.

The settling tanks are 20 ft. diameter by 25 ft. high, while the filter units are 12 ft. diameter and from 24½ to 29 ft. high. They were fabricated at our

Birmingham plant and erected at the mill, welded construction being used throughout.

In addition, we fabricated the pressure service tank, surge tank and two screen tanks installed on the 48-in. pipe line which supplies the mill with water. They were welded up at Birmingham and shipped complete.

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Houston	2919 Main Street	Chicago	2106 Old Colony Bldg.	Boston	1510 Consolidated Gas Bldg.
Tulsa	1611 Hunt Bldg.	San Francisco	1040 Rialto Bldg.	Havana	Edificio Abreu 402

B-548

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

1037 Construction Record

(Continued from page 31)

change facilities under a \$2,000,000 expansion program.

Maryland-Missouri-North Carolina

The American Enka Corporation's \$1,500,000 program at Enka, N. C., was completed. At Wilmington, the Ethyl-Dow Chemical Co. completed a \$1,000,000 addition to its bromine plant.

The Crown Can Co. proceeded with construction on its \$3,500,000 plant at St. Louis, Mo. Ford Motor Co. announced acquisition of a site for an assembly plant to equal the size of any of its plants of that type in the country. Keadley & Mattison Co., Ambler, Pa., manufacturers of asbestos and magnesia products, started work on its \$500,000 plant at St. Louis. Owens-Illinois Can Co. acquired a plant site in the same city.

At Baltimore, Md., Glenn L. Martin Co. completed a \$2,000,000 construction program, involving additions that give

the plant the largest airplane assembly floor in the world. The Bethlehem Steel Co. is expending from \$25,000,000 to \$35,000,000 on improvements. The total ingot production when the work is completed will be 2,400,000 tons annually.

Rail lines have spent many millions for modernizing, expanding and improving facilities. New cars for both freight and passenger traffic have been bought or are being built in company shops. Engines representing the latest in streamlining and speed are being designed and placed in operation. Every comfort is being provided for comfortable travel and to expedite delivery of commodities.

The 4,000 freight cars of the Baltimore & Ohio are costing \$10,000,000. The Missouri Pacific was authorized to make a \$6,387,000 expenditure for new diesel locomotives and 2,500 freight cars. The new equipment program of the Missouri-Kansas-Texas Lines cost \$5,000,000. Orders for 5,600 freight cars involving a reputed expenditure of \$14,000,000 were placed by the Southern Railway.

Forty-three stainless steel cars and new diesel electric locomotives are included in the \$4,800,000 equipment purchase authorization recently made by the Atchison, Topeka and Santa Fe. Four other lines in the South placed orders amounting to over \$2,500,000.

These lines were the Atlantic Coast Line, the Louisville and Nashville, the Nashville, Chattanooga & St. Louis and the Clinchfield. Announcement of the purchases followed closely the decision of the Norfolk and Western to make improvements, estimated to cost \$3,700,000. The program included an interlocking plant at Devon, W. Va., and extension of four passenger station tracks at Roanoke.

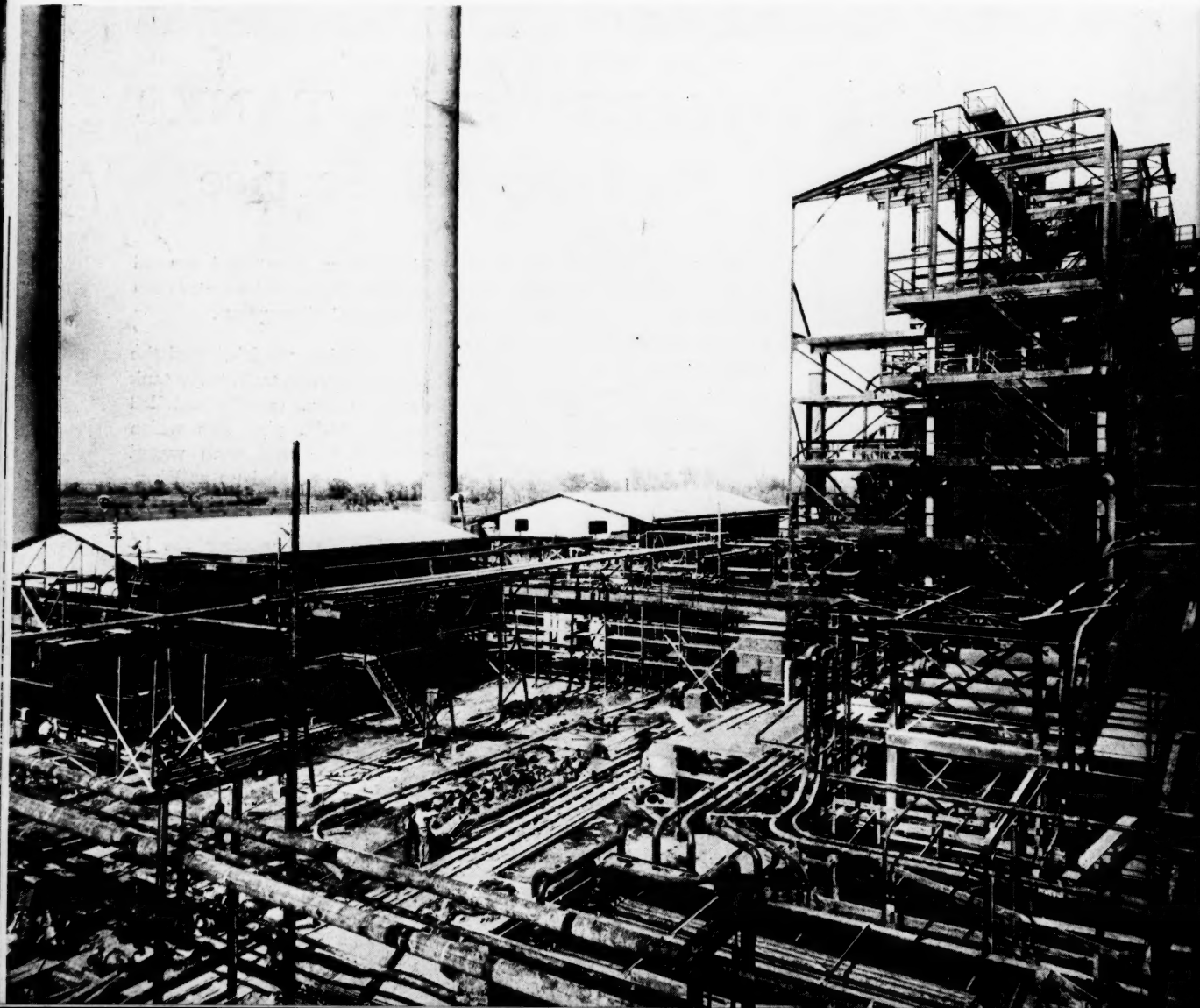
Baltimore is now constructing a \$5,000,000 modern airport.

Water Supply Contracts

Water is important in a large number of industrial operations which during the past year have made heavier demands on the existing supplies and made it

(Continued on page 42)

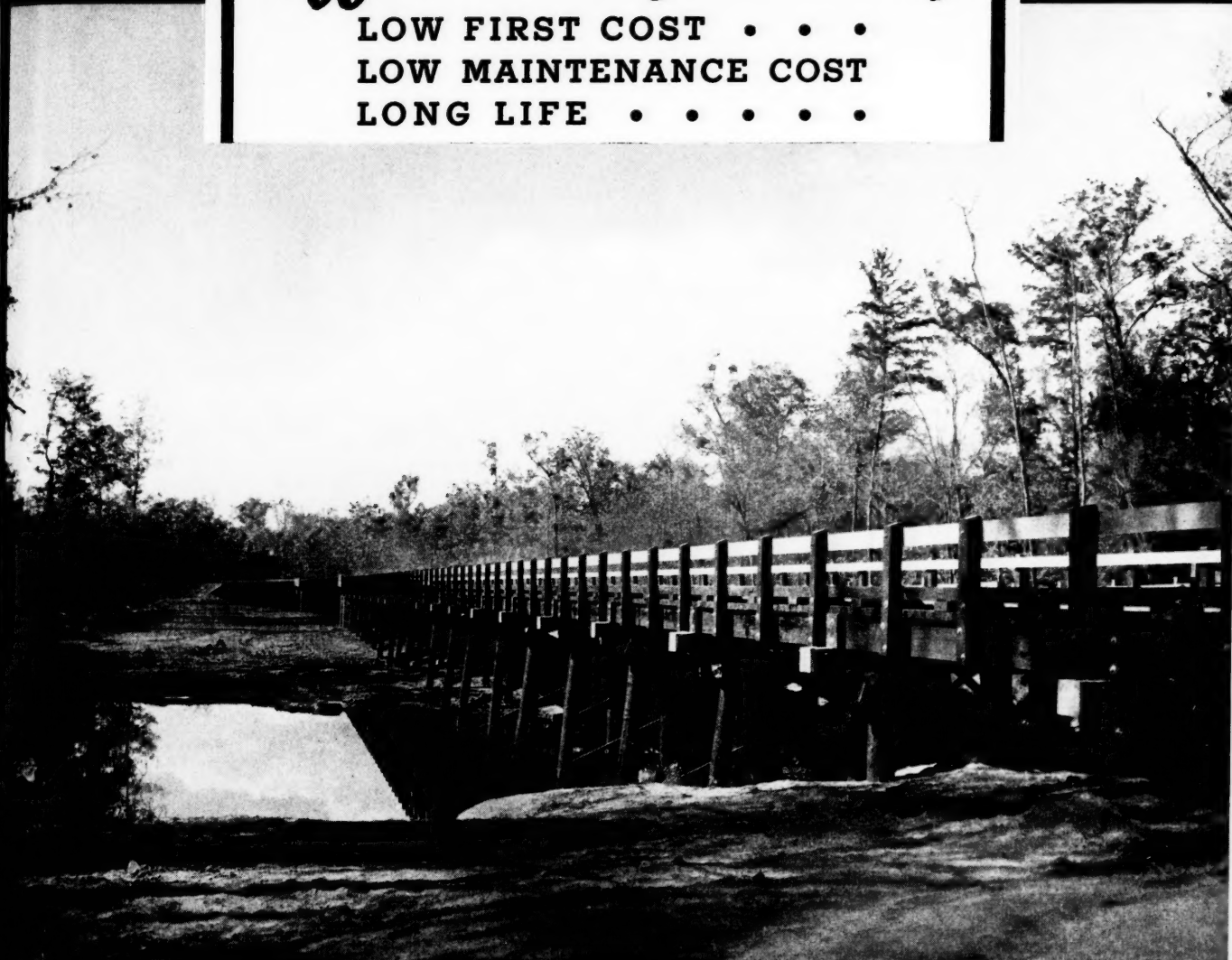
Atlantic Refining Co.'s plant at Port Arthur, Texas—View of two furnaces and part of main cracking tower



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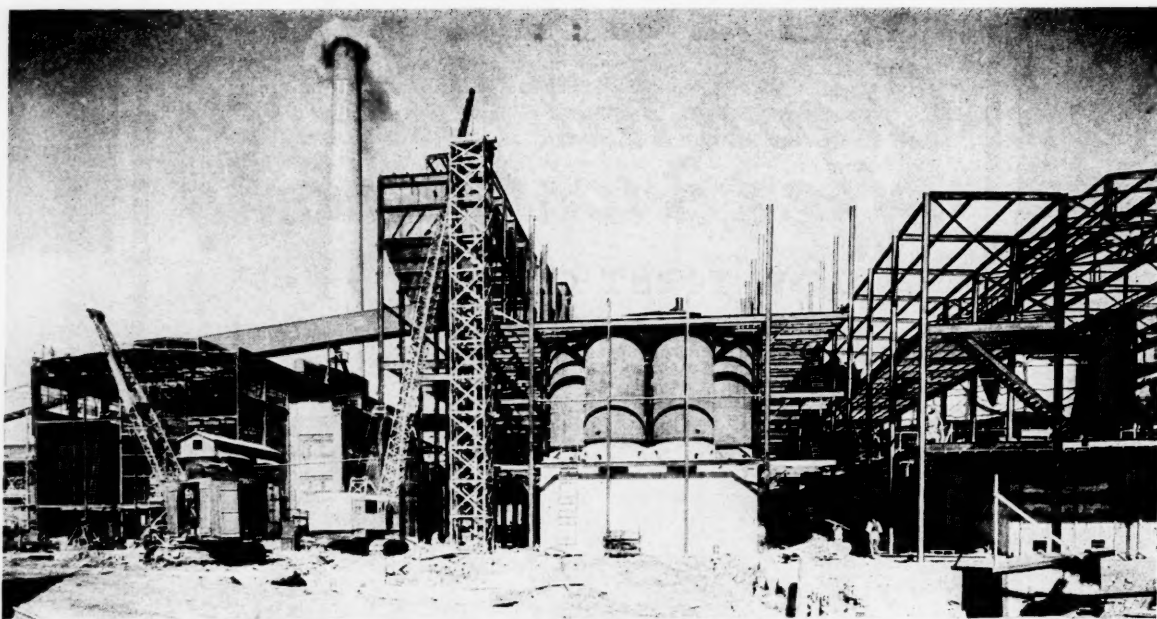
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ADDRESS INQUIRIES TO CHICAGO, ILL. OR LOUISVILLE, KY.



1937 Construction Record

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necessary to make commitments, or carry on projects already started at the South's industrial centers. Almost \$34,780,000 in contracts were let during the year for additional water supplies in industrial centers.

Baltimore is now driving a 12-foot tunnel to augment its present water supply at a cost of about \$5,000,000. The City of Little Rock is well along on its water works expansion. Thirty miles of concrete pipe line and one-half mile of tunnel, as well as filter plant improvements and a million dollar dam are included.

Sixty-inch concrete conduits were built under contracts totaling more than a million dollars at St. Louis, Mo., where one filter plant alone has a capacity of 95,000,000 gallons of water daily. A million dollar project for driving 23 miles of tunnel through marl was finished at Charleston, S. C., to supply water for the new paper mill built there. The new industrial operation will use more than a third of the 70,000,000-gallon daily capacity of this tube.

Birmingham, Ala., also has a water project under way. It is designed to provide the industrial requirements for many years to come and thus relieve the strain of such operations on the drinking water supply. Approximately \$7,000,000 is being spent to carry out the work, which includes construction of dam, reservoir, many miles of steel pipeline and pumping facilities.

Paper mills have also constructed large water lines. One of these was the 10-mile stretch of line built in South Carolina to the new Georgetown plant of the

Construction of Tanks and Steel Work, Unit No. 2 of Union Bag and Paper Plant, Savannah

Southern Kraft Corp. The St. Joe Paper Co. has finished another such project at St. Joe, Fla. This line is tied in with a battery of sixteen artesian wells. A tunnel under the Houston ship channel to supply the Champion Paper and Fiber plant, with its appurtenant pipe lines and other facilities, is expected to cost in the neighborhood of \$2,000,000. This company is now constructing an \$800,000 salt recovery plant also.

Among Southern power companies, the 1937 program of the Alabama Power Co., was placed at \$3,700,000. A later announcement revealed expenditure of \$1,700,000 for constructing a high voltage line from middle Alabama to the coast of Mobile.

The Arkansas Power & Light Co., Pine Bluff, placed a \$500,000 unit in operation at its Little Rock plant, as construction went forward on a hydro plant on the Ouachita River, where two others are now operated by the company. The Potomac Electric Power Co., Washington, D. C., applied for permission for a \$5,000,000 bond issue for extensions and betterments.

Georgia Power Company's 1937 program involved expenditure of \$7,000,000. A million dollars of this was for rural electrification and another million for additional electric and street railway service and improvements to Plant Atkinson, a steam-electric plant on the Chattahoochee River.

Consolidated Gas, Electric Light and Power Co., at Baltimore, budgeted \$7,042,000 for its 1937 construction. About \$5,565,000 of this was for the electrical

department. New generating facilities to cost \$3,000,000 were planned for their Cumberland plant by the Potomac Edison Co., of Hagerstown, Md.

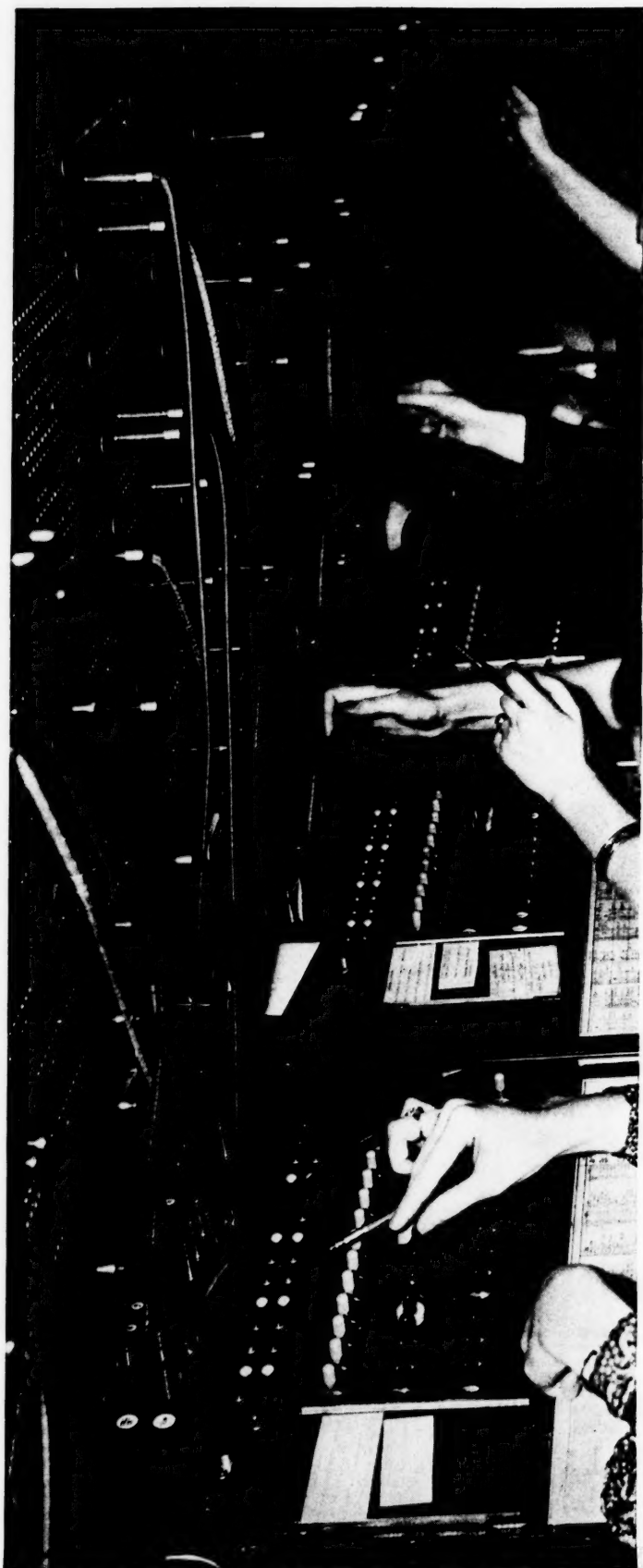
Work was started by the Duke Power Co., of Charlotte, N. C., on a \$3,000,000 addition to its Riverbend plant, to include a 55,000-kilowatt turbine. Tennessee Electric Power Co., Chattanooga, received permission to build a \$2,000,000 steam-electric plant.

Approximately \$2,500,000 was the allotted 1937 expenditure of the Oklahoma Gas & Electric Co., Oklahoma City, for expansion. This is part of a five year plan to spend between \$12,000,000 and \$15,000,000. Major 1937 construction of the Public Service Company of Oklahoma, Tulsa, involved underground lines, transmission facilities and substation work, with a \$2,000,000 program including a \$1,000,000 addition at the West Tulsa station proposed for 1938.

An extension of the Neches power station of the Gulf States Utilities Co., Beaumont, Tex., required expenditure of \$2,000,000. The Dallas Power & Light Co. ordered a 30,000-kilowatt generating unit for its Mountain Creek power project, the earth dam for which was finally finished in 1937. San Antonio Public Service Company's 1937 program for construction was \$1,400,000, a \$500,000 increase over the outlay in 1936.

The Virginia Electric & Power Co., of Richmond, announced \$850,000 improvements at Norfolk. A \$500,000 addition was being made to its Reeves Avenue station in that city and \$380,000 was being spent for power lines. Its entire program was placed at \$2,874,000. This company not many months before had completed a \$2,000,000 addition to its Twelfth Street

(Continued on page 46)



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Steel in 1937

BY

Walter S. Tower

*Executive Secretary,
American Iron And Steel Institute*

DESPITE a sharp decline in steel output in the closing months of 1937, the tonnage of steel ingots produced during the year in those states south of Pennsylvania and the Ohio River and east of the Mississippi is estimated to have been the largest in history.

Total ingot output of the steel plants of the region is estimated at 6,360,000 gross tons for the year, which compares with 5,776,000 tons in 1936 and with 5,821,000 tons in 1929.

In recent years a substantially larger proportion of the nation's steel has been produced in states south of Pennsylvania and the Ohio River, largely because of the expansion of steel-making facilities in Alabama, Maryland and West Virginia.

In 1929, for example, the tonnage produced in southern states was about 10.5 per cent of the total, while in the past four years the proportion has averaged close to 13 per cent.

During the first nine months of 1937, the entire steel industry operated at 83 per cent of capacity, the high month being April with a rate of 90 per cent. With a swiftness unprecedented in the history of the industry, the rate dropped from 80.4 per cent about the middle of September to a level estimated for the month of December at about 27 per cent.

The average rate for the full year will fall close to 72 per cent of capacity as compared with 68 per cent last year.

Despite the let-down in the last quarter, the year as a whole set new records

in the industry for number of employees, average wage rates and total payrolls.

Production of steel ingots in 1937 is estimated at approximately 50,250,000 gross tons, a larger total than for any previous year except 1928 and 1929, and an increase of about five and one-half per cent over 1936. That estimate is so close to the 1928 figure as to leave a chance that 1937 will be the second best year for steel output. The total in 1936 was 47,512,800 tons. Labor troubles which appeared for a time in some quarters of the industry evidently had little direct effect on total output for the year.

The output for 1937 recorded the fifth consecutive yearly increase since 1932, but the gain this year was smaller than for any other year since 1933.

The relative stability of steel demand which characterized the year 1936 was not in evidence in 1937. The demand for steel in the early months of this year now appears to have been influenced to a considerable extent by forward buying in addition to the large volume of consumers' requirements for immediate use. Forward buying evidently was stimulated by the unsettled labor situation in industry generally, and by an increase in steel prices made necessary by higher costs, especially of labor and raw materials.

As a result, the backlogs of unfilled orders on steel producers' books mounted rapidly during the early months of 1937 and mills were hard pressed to make desired deliveries. Demand through most of the year from the automobile, farm implement and many miscellaneous lines was in large volume, but such important steel users as construction industries and the railroads continued to lag in buying.

Toward the end of the summer, however, new orders for steel fell off rapidly as consumers began to draw upon inventories, and a decline in production set in after the Labor Day holiday.

Total payrolls of the steel industry established a new record during 1937. The year's payrolls of the industry are estimated to have amounted to approximately \$975,000,000 representing a gain of about \$200,000,000, or 25 per cent, over the \$775,000,000 paid to steel employees in 1936. Steel payrolls distributed during the year in states south of Pennsylvania and the Ohio River are estimated at nearly \$113,000,000.

Two wage increases, one of about 10 per cent in November 1936, and the other averaging 15 per cent, in March 1937, caused hourly wage rates to rise to the highest level ever attained in the steel industry.

In addition, wage payments at the rate of time-and-a-half for overtime work beyond eight hours a day or forty hours a week swelled the pay envelopes of many steel workers when the mills were running at a high rate of operations. Vacations with pay, or the option of extra pay in place of a vacation, were also granted to 300,000 steel workers during 1937, at a cost to the industry estimated to be \$12,000,000.

Employment in the steel industry as a whole rose from 537,000 in December 1936 to the record level of 603,000 in August 1937, and even after that date continued generally to hold above the corresponding levels of 1936, despite the decline in production. Average number of employees in southern steel mills during 1937 is estimated at 72,000.

In October 1937, for example, the latest month for which details are available, a total of 586,600 were employed in the industry, or only about three per cent less than the September total, while tonnage of steel ingots produced in October was 21 per cent less than in September. This maintenance of the working forces was accomplished by reviving the share-the-work program for spreading employment.

In 1937, the industry allocated approximately \$300,000,000 for the construction of new plants and installation of modern equipment. Its expenditures for those purposes in the last three years has amounted to \$650,000,000, a large part of which was expended in developing plants and properties in southern states.

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Coos Bay Bridge, North Bend, Oregon.
Total length of main steelwork, 1708 feet.
Length of anchor arm spans, 457½ feet.
Length of center span, 793 feet.
Clearance under suspended span, 152 feet.
Conde Bascom McCullough, Engineer.

There is a wide span from the Oregon Trail and Covered Wagon of the early pioneers to the new Oregon Coastal Highway which invites and intrigues the Motorist of today. But it is the same spirit to push forward and to build.

The Coos Bay Bridge is the longest and most important link in this new highway. The main steelwork for the 1708-foot span was fabricated and shipped from our Memphis plant.

We build big bridges and big buildings but you can be sure of no less careful attention and handling of your smallest requirement in steel construction.

The two anchor arm spans were erected first, followed by the suspended span in the middle.



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Plants at Roanoke, Birmingham, Memphis

VIRGINIA BRIDGE

S T E E L S T R U C T U R E S

JANUARY NINETEEN THIRTY-EIGHT

1937 Construction Record

(Continued from page 42)

station at Richmond. The 1938 program is estimated at \$4,000,000.

Appalachian Electric Power Co. placed its new Logan, W. Va. plant in operation. The West Penn Power Co. and the Ohio Power Co., added to their Windsor plant under a \$10,000,000 project, as the Monongahela West Penn Public Service Co. carried on similar work at a cost of \$2,500,000 at its Rives-

ville station. The Appalachian company also started work on an \$11,000,000 dam and power project on the New River, near Radford, Va.

Estimated expenditures of the Florida Power & Light Co., Miami, are \$1,530,000 for 1937 and \$1,600,000 for 1938. This latter program covers \$600,000 for transmission and substations and \$1,000,000 for distribution lines. The 1937 expenditure involves \$50,000 for generating facilities, \$280,000 for transmission and substations and \$1,200,000 for distribution. Louisville Gas & Electric Company's major project was a \$1,800,000, 25,000 kilowatt generator at its Canal Street station.

Southern Construction Activity

	Contracts Awarded		Contracts to be Awarded		Contracts Awarded Twelve Months 1937
	December 1937	December 1936	December 1937	December 1936	
GENERAL BUILDING					
Apartments and Hotels	\$928,000	\$2,970,000	\$2,051,000	\$3,755,000	\$38,968,000
Association and Fraternal	60,000	85,000	200,000	105,000	2,517,000
Bank and Office	545,000	685,000	710,000	225,000	11,486,000
Churches	316,000	215,000	570,000	730,000	5,241,000
Dwellings	5,090,000	5,280,000	37,422,000	5,260,000	88,563,000
Stores	2,914,000	1,710,000	4,967,000	2,835,000	34,043,000
	\$9,853,000	\$10,945,000	\$45,920,000	\$12,910,000	\$180,818,000
PUBLIC BUILDING					
City, County, Government and State	\$6,791,000	\$5,036,000	\$12,665,000	\$24,857,000	\$100,326,000
Schools	12,282,000	3,015,000	6,533,000	15,731,000	54,485,000
	\$19,073,000	\$8,051,000	\$19,198,000	\$40,588,000	\$154,811,000
ROADS, STREETS and PAVING	\$13,736,000	\$15,485,000	\$35,065,000	\$28,390,000	\$177,526,000
INDUSTRIAL and ENGINEERING					
Drainage	\$2,020,000	\$735,000	\$4,283,000	\$9,990,000	\$30,904,000
Filling Stations and Garages	412,000	400,000	315,000	335,000	7,269,000
Industrial Plants	11,270,000	41,875,000	30,516,000	58,715,000	223,947,000
Sewers, Waterworks	2,107,000	2,360,000	6,668,000	12,050,000	34,780,000
	\$15,809,000	\$45,370,000	\$41,782,000	\$81,090,000	\$296,900,000
Total	\$58,471,000	\$79,851,000	\$141,965,000	\$162,978,000	\$810,055,000

Southern Construction by States

December, 1937

	Contracts Awarded	Contracts to be Awarded	Contracts Awarded Twelve Months 1937
Alabama	\$2,584,000	\$9,926,000	\$31,038,000
Arkansas	810,000	3,102,000	14,162,000
District of Columbia	1,363,000	3,466,000	60,871,000
Florida	3,975,000	7,627,000	82,172,000
Georgia	5,865,000	5,321,000	47,784,000
Kentucky	980,000	7,297,000	31,391,000
Louisiana	5,977,000	16,783,000	71,185,000
Maryland	6,332,000	9,014,000	63,471,000
Mississippi	4,883,000	3,595,000	35,647,000
Missouri	2,165,000	28,722,000	56,022,000
North Carolina	1,895,000	3,040,000	43,099,000
Oklahoma	272,000	2,549,000	30,133,000
South Carolina	2,458,000	1,660,000	23,441,000
Tennessee	2,643,000	6,637,000	31,967,000
Texas	13,060,000	18,948,000	130,951,000
Virginia	2,487,000	6,381,000	40,489,000
West Virginia	722,000	6,687,000	16,262,000
Total	\$58,471,000	\$141,965,000	\$810,055,000

Engineering Construction

(Drainage, Dredging, Irrigation, Sewers, Waterworks)
December, 1937

	Contracts Awarded	Contracts to be Awarded	Contracts Awarded Twelve Months 1937
Alabama	\$163,000	\$35,000	\$1,352,000
Arkansas .....	.....	1,642,000	5,298,000
District of Columbia	168,000	15,000	2,353,000
Florida	292,000	140,000	3,948,000
Georgia	398,000	738,000	1,522,000
Kentucky	704,000	1,343,000	9,277,000
Louisiana	171,000	141,000	9,374,000
Maryland	378,000	280,000	4,994,000
Mississippi	102,000	2,302,000	4,842,000
Missouri	98,000	98,000	3,391,000
North Carolina	74,000	53,000	3,583,000
Oklahoma .....	.....	230,000	1,115,000
South Carolina	1,303,000	3,722,000	575,000
Tennessee	236,000	187,000	11,415,000
Texas	45,000	25,000	1,517,000
Virginia .....	.....	.....	402,000
West Virginia .....	.....	.....	.....
Total	\$4,127,000	\$10,951,000	\$65,684,000

Roads, Streets, Paving

(Roads, Streets, Paving, Bridges, Viaducts)
December, 1937

	Contracts Awarded	Contracts to be Awarded	Contracts Awarded Twelve Months 1937
Alabama	\$1,066,000	\$2,565,000	\$6,389,000
Arkansas	242,000	894,000	3,421,000
District of Columbia	396,000	45,000	2,320,000
Florida	53,000	880,000	8,042,000
Georgia	1,358,000	925,000	15,985,000
Kentucky .....	.....	1,297,000	13,550,000
Louisiana	292,000	516,000	15,895,000
Maryland	982,000	791,000	7,460,000
Mississippi	2,893,000	2,460,000	18,857,000
Missouri	490,000	16,225,000	8,600,000
North Carolina	112,000	670,000	11,502,000
Oklahoma .....	.....	21,000	7,749,000
South Carolina	1,258,000	410,000	10,274,000
Tennessee	1,054,000	415,000	5,332,000
Texas	2,487,000	1,500,000	27,626,000
Virginia	902,000	4,276,000	9,591,000
West Virginia	121,000	1,175,000	4,933,000
Total	\$13,736,000	\$35,065,000	\$177,526,000

General Building

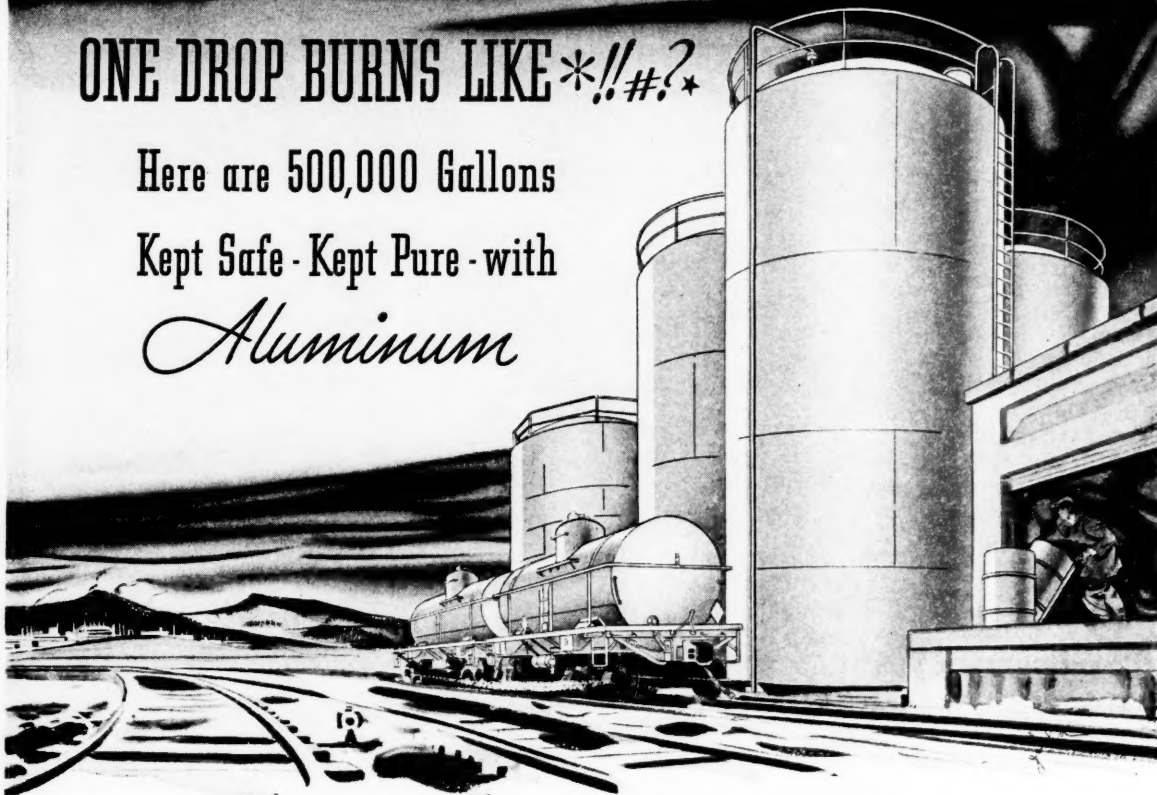
(Office, Stores, Dwellings, Apartments, Hotels, etc.)
December, 1937

	Contracts Awarded	Contracts to be Awarded	Contracts Awarded Twelve Months 1937
Alabama	\$60,000	\$6,510,000	\$1,716,000
Arkansas .....	.....	270,000	726,000
District of Columbia	772,000	3,171,000	23,397,000
Florida	1,899,000	3,746,000	45,137,000
Georgia	461,000	365,000	16,552,000
Kentucky	42,000	4,800,000	1,015,000
Louisiana	169,000	8,840,000	6,149,000
Maryland	2,604,000	6,803,000	15,104,000
Mississippi	29,000	165,000	3,342,000
Missouri	455,000	584,000	10,430,000
North Carolina	489,000	1,305,000	6,965,000
Oklahoma	30,000	95,000	2,929,000
South Carolina	304,000	965,000	3,294,000
Tennessee	45,000	2,655,000	6,013,000
Texas	1,871,000	1,931,000	30,373,000
Virginia	412,000	965,000	5,516,000
West Virginia	220,000	2,750,000	2,332,000
Total	\$9,853,000	\$45,920,000	\$180,818,000

(Continued on page 68)

ONE DROP BURNS LIKE *!!#.*

Here are 500,000 Gallons
Kept Safe - Kept Pure - with
Aluminum



Over 500,000 gallons of a strong acid are stored in these tanks of welded Alcoa Aluminum sheet. This acid is one of many common chemicals which does not actively attack Aluminum.

YOU'VE HEARD the story of the chemist who conceived a wonderful substance, so potent that it would dissolve anything . . . He expected to remake the world, but his discovery was of no earthly use, because he couldn't find anything to make the stuff in!

The ingenuity of chemical engineers is giving the world many new and wonderful substances. New or old, complicated or simple, there is always the problem: What to *make* it in; what to *keep* it in; what to *ship* it in.

Many problems are answered by Alcoa Aluminum, because it is in the very nature of Aluminum to be resistant to the attack of many chemicals.

The chemical industry uses equipment and containers of Aluminum in hundreds of applications. The plain fact is that they last longer because they are not corroded by the contents.

But that is only half the story. Quality of product is the other. A long list of the important products are regularly processed in Aluminum to main-

tain purity, and to preserve color, taste, or clarity.

Nature made Aluminum resistant to corrosion. Our job has been to make it possible to use this natural advantage economically. We have devoted every resource to making virgin Aluminum cheap. Research has created many strong alloys of Alcoa Aluminum, which permit the most economical use of this versatile metal. And we have made these alloys available in every usable form.

.

IT'S A LIFTABLE IDEA . . . The weather is the world's worst corroder. One of the reasons you see so much Alcoa Aluminum used these days is because it does stand up against the weather. That's an idea for architects, equipment makers of all kinds.

Special note for Oil Men: Aluminum tanks for cars or trucks cause no sludging.

ALUMINUM COMPANY OF AMERICA, 2109 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA · ALUMINUM

JANUARY NINETEEN THIRTY-EIGHT

Present Day Problems

Discussed By Congress Of American Industry

IN a spirit of frank and earnest co-operation, the Congress of American Industry, sponsored by the National Association of Manufacturers, closed its sessions in New York last month with pleas that investors, workers, management and Government join hands to solve the problems of the present business recession.

The session attracted nearly 2,000 manufacturers and industrialists from all parts of the country.

The keynote was sounded by President William B. Warner who is President of the McCall Corporation.

"We have the elements of prosperity at hand if we have the common sense and energy to grasp them," he told the gathering, in outlining the four specific points designed to halt the business recession and through cooperation, again turn the tide upward toward recovery. These points were:

1. For Government — action convincing to the people of a changed attitude toward business. Encourage and stimulate business expansion by repeal or modification of those laws which have contributed to the present downward trend, and avoid new legislation which will create new uncertainties, new fears. Curtail federal expenditures and let the voice of business experience be heard on matters pertaining to business interests.

2. For Management—so far as possible avoid laying off employees, and as legislative burdens are lifted, go forward with expansions which will encourage and stimulate economic revival.

3. For Capital—as Government restrictions are removed, make available the funds necessary to enable industry to go forward and expand both production and employment.

4. For Labor—avoid strikes and unreasonable demands which will force production costs higher at a time when production at lower prices to the consumer is vital.

Continuing, Mr. Warner asked that Congress "remove" the major elements of hesitation.

"I firmly believe," he said, "that Congress should:

1. Repeal the undistributed income tax and the capital gains tax.

2. Reassure business, by not passing such laws, that it need not fear new controls like those in the proposed wages and hours bill.

3. Curtail every needless federal expenditure, without interfering with aid for those who are in want and unable to find work or unable to work.

4. Modify labor laws so as to put more stability into our economic structure.

5. While relaxing in no particular any statute which outlaws abuses contrary to the public welfare, examine all laws to correct any that are strangling progress. In doing this, Congress should direct careful attention to the prevention of monopoly or price-fixing, and to the preservation of competition.

"We cannot climb overnight out of a recession as sharp as this one," Warner continued. "The need of the hour is for teamwork between capital, labor, management and Government. Business, as a member of the team, cannot play the game alone. But it is eager to do its part."

Outstanding among the presentations of Industry's viewpoint was that by Lamont du Pont, President of the E. I. du Pont de Nemours & Company, who said:

"Amid the confusion and controversy that mark the economic thinking of today, we stand in remarkable agreement on one point. American opinion seems unanimous that the chief hope for a lasting solution of our major social difficulties lies in the vigorous expansion of industry into new fields.

"All sides are looking to industry and to industrial science to create millions of new jobs and end unemployment for all who can and will work.

"Today industry is blanketed by a fog of uncertainty.

"Uncertainty rules the tax situation, the labor situation, the monetary situation, and practically every legal condition under which industry must operate."

He asked that industry be given a "reasonable degree of certainty" upon which it can count in planning current and future operations and for stabilization of tax rates over a definite period, plus a simplification of the tax structure.

"If industry is to have a fair opportunity to work, the legal rules under which it must operate should be stabilized immediately," he said. "As long as the law-making mills grind, the fog of uncertainty mocks the industrial planner. Business needs more than a mere breathing spell from legislative experimentation. It needs positive, reliable assurance that the complicated terms and conditions under which it must function are finally determined, subject only to an un-

mistakable public demand for their amendment. As it is, the business man is the subject of more legislative concern than the criminal. The latter enjoys far less uncertainty of the laws prescribing his operations. The criminal laws are stabilized."

Of prime interest to the industrialists were the discussions revolving around labor problems, considered so important by National Association of Manufacturers leaders that an extra day was added to this year's sessions solely for consideration of labor relations questions.

The leading address in these discussions was delivered by E. T. Weir, Chairman of the National Steel Corporation, Pittsburgh, Pa., who said the present apparent schism between Capital and Labor stood as a threat to democracy and as an obstruction to business activity.

He estimated that strike costs in 1936 were about \$370,000,000, while during 1937 the costs had jumped more than ten-fold to somewhere in the neighborhood of \$5,000,000,000.

He said: "When the final record for the year 1937 is written, it will be found that the average American family has paid \$160 to \$175 as its unwarranted and undeserved share of the cost of labor disputes. The figures do not include losses due to property damage nor can they reflect suffering, injury and loss of life. In the first six months of this year there were over 2,500 strikes, the worst and most costly period of labor turmoil in our history."

"The responsibility for much of our present labor crisis lies at the door of Government," he said. "Government must recognize this and take steps to bring order out of chaos. In this connection, it should give assurance that employees shall not be subject to coercion from any source, by amendment to the National Labor Relations Act, and by the vigorous enforcement of laws against violence, intimidation and coercion.

"If corporations are expected to deal with labor unions, then the unions should be required to make themselves as responsible as the corporations. They should be prohibited from contributing to political campaigns, as are corporations. It should be illegal for them to call a strike without first taking a vote of the employees in the plant involved. In the event of a strike, it should be illegal to transport pickets from other plants and industries. Strike violence should be outlawed. The interpretation of the law should not be left to administrative agencies; it should be included in the regular business of our courts.

"Government should realize that its primary obligation is to protect the right of the worker to work."

As though to weave the cooperative attitude of business into one final plea to all elements, C. M. Chester, Chairman of General Foods Corporation and Chairman of the Board of the National Association of Manufacturers called for an end of bickering.

THE *New* INTERNATIONAL PICK-UP TRUCKS IN 3 SIZES



The ALL-STEEL CAB is a feature in every new International. The one-piece top, the sides, the back and cowl panels are welded into the complete cab frame. Rubber mountings wherever cushioning is needed. This is the roomy, well-appointed deluxe cab.

● In the new International Truck line special attention has been given the popular pick-up type of truck—from the standpoint of appearance as well as all-around utility. The men who design and build and test them took all the time that this kind of a job requires and put into these new Internationals all the experience that Harvester has gathered in more than thirty years of truck manufacture.

Pick-Up bodies are available in 76, 88, and 102-inch (inside body) lengths for use on International chassis in 113, 125, and 130-inch wheel-bases. These durable all-steel bodies meet every need in pick-up truck work, offering practical and attractive design. The roomy all-steel cab is designed and equipped for maximum comfort, convenience, and safety under all operating conditions.

It is that way throughout the entire International Truck line. No matter what the load, there is always an International built to fit the job exactly. There are 26 models to choose from, and capacities ranging from Half-Ton to heavy-duty Six-Wheelers. Write for a catalog, or call on the nearest International Truck dealer or Company-owned branch and see the new trucks.

INTERNATIONAL HARVESTER COMPANY

180 No. Michigan Ave.

(INCORPORATED)

Chicago, Illinois

INTERNATIONAL TRUCKS

JANUARY NINETEEN THIRTY-EIGHT

49

The Industrialist In City Planning

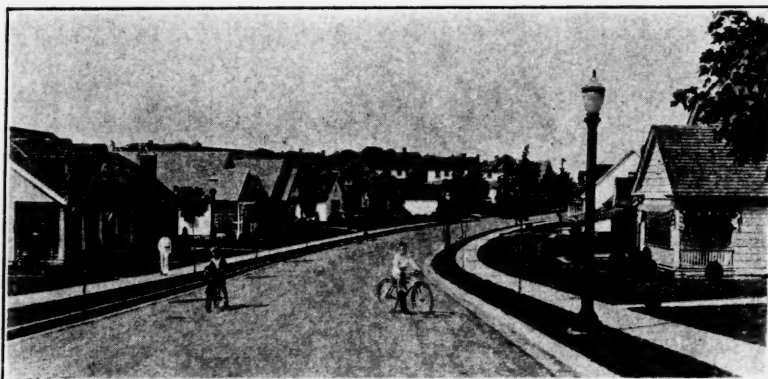
BY

Walter H. Blucher

Executive Director, American Society of Planning Officials

American industry has been highly praised for the efficient manner in which it operates. It is surprising, then, to find that the men who stand behind the costly and complex processes of industry are too often indifferent to the management of the communities in which their businesses are located and to which they make enormous contributions in the form of taxes.

Each city—and a city, of course, is merely the total of its home owners, store-keepers and manufacturers—bears the responsibility for the expenditure of its own funds. It must determine whether it will spend according to a soundly conceived plan which will provide the greatest utility and the highest return on its money, or whether it can afford the great American extravagance of haphazard spending. Under a planned system a new school will be built where present and future populations dictate, not where there is a vacant lot; water mains will be located according to residential or industrial use; and main highways will be constructed so that



A typical street in the model industrial town of Hershey, Pa.

they will not run through the residential sections.

It is a regrettable fact that most communities throughout this country have spent haphazardly the funds available for these purposes. The result has been, of course, obsolescence of improvements long before the physical plant has been used to capacity. In every city there are visible today the evidences of yesterday's carelessness: streets which need to be widened, pavements which are inadequate, sewers and water mains which do not serve their purpose, playgrounds in industrial districts, and schools which are no longer needed be-

cause of shifts in population.

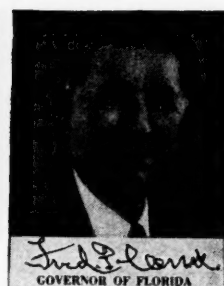
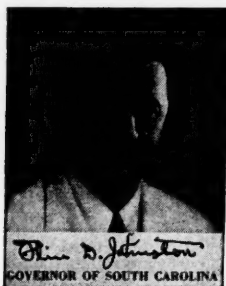
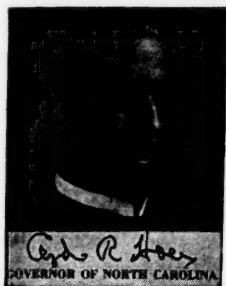
Certainly one cannot foresee all future developments. But city planning will result in a program elastic enough to embrace most of them. Such planning involves the study of past trends, a consideration of future possibilities and the determination of a program based upon the knowledge so gained. It is obvious that with some consideration of population and industrial shifts and trends one can determine a rational plan for public improvements and civic development.

During recent years there has been a
(Continued on page 70)

Air view of Kohler City, Wisconsin, a model industrial city



TO AID AND PROTECT INDUSTRIAL DEVELOPMENT IN THE SOUTHEAST



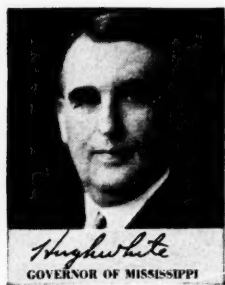
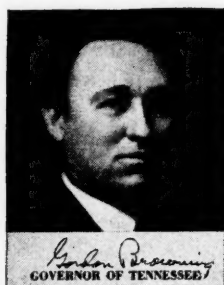
WE, THE GOVERNORS...

WITH a view to aiding industrial expansion of our section and the stabilization of employment we, the Governors of the Southeastern States, set forth the following objectives:

- 1 **Equitable freight-rates as affect the Southeast.**
- 2 **Uniform taxation policies.**
- 3 **Friendly labor attitude between employer and employee.**

- 4 **Cooperation with Federal Government on proper major policies affecting industrial development.**

It will be our aim by working together on these objectives to maintain conditions favorable to sound industrial development so that the Southeast will reap the full benefits of the ever-increasing trend toward Industrial Decentralization.



THE SOUTHEAST PAYS NO TRIBUTE TO WINTER

What share of your profits does winter demand? What tribute is taken from your workers' wages by snow and sleet and unrelenting cold?

The underlying factor behind the great trek of industry to the Southeast is its year 'round moderate climate. A climate that reduces capital investment, cuts construction costs, and lowers production costs all along the line. A climate that makes possible better standards of living at lower living costs for both labor and management. Investigate the possibilities of a Southeastern location for your type of manufacture. On the basis of facts you will, inevitably, come to the conclusion that you can substantially increase profits by placing all or part of your production in the Southeast. And you will find our people ready and anxious to cooperate with you in making your enterprise a success.

Outstanding advantages which the Southeastern States offer to manufacturers are:

- Unlimited supply of raw materials.
- Ample power at low rates.
- Excellent transportation facilities to growing markets.
- Native-born labor—efficient and reasonable.
- And especially, above all others, Unexcelled year 'round moderate climate which makes possible:
- Lower living costs for better standards of living.
- Lower production costs.
- Lower construction costs.
- Lower capital investment.

LAWRENCE WOOD ROBERT, JR.
Industrial Consultant
Southeastern Governors Conference
Bona Allen Bldg., Atlanta, Georgia

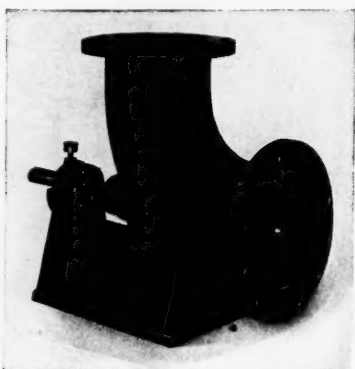
New Ways of Doing Things

Self-Dumping Hot Metal Transfer Car

The Koppers Company's Bartlett Hayward Division, Baltimore, Md., announces a new type of self-dumping hot metal transfer car, designed by Koppers engineers under the supervision of John D. Pugh, inventor of the original mixer type ladle. The first of the new cars was built for Alan Wood Steel Company of Conshohocken, Pa. The car ladle is of the closed mixer type with a single central spout opening, but with a greater taper below its axis than above, thus reducing the length for a given capacity and pouring spout height. It is all welded, having cast steel heads and pouring spout and rolled steel shell. Cars are mounted on four, six or eight wheel trucks, depending upon the size of the car and wheel loadings permissible.

Elbow-Propeller Type Pumps

Designed to handle not only water but semi-viscous liquids, especially liquors, sugar juices, paper stock, etc., a new line of elbow-propeller type circulating pumps is announced by Worthington Pump and Machinery Corporation, Harrison, N. J. Compact and sturdy, these pumps range in capacities from 1000 to 2000 gallons per minute, at heads up to 20 feet.



Propeller Type Circulating Pump

Pressed Steel Blower Wheels

Manufacture and sale of a new line of Pressed Steel Blower Wheels are authorized in license granted to The Torrington Manufacturing Company of Torrington, Conn., by The American Blower Corporation of Detroit, Mich., under American Blower patent numbers 1,515,763 and 1,648,060. At present Torrington is producing only the No. 00 size, 3 inches in diameter, suitable for automobile heaters and windshield defrosters, etc. Additional sizes of wheels in this design are expected to be available soon, ranging from 3 inches to 9 inches in diameter in conventional standard widths.

Power Transmission for Wide Range of Speeds

A new transmission unit for a wide range of speeds has recently been introduced by the Speedmaster Company of Minneapolis, Minn. Known as the "Speedmaster," this power transmission may be applied to almost any machine or power-driven device. It employs standard "V" belts which run over adjustable Bakelite pulleys, and may receive power at 90 r. p. m. at the slow speed and 4300 r. p. m. at the high speed, giving a ratio of 45 to 1. An important feature is that the alignment between pulleys and belts is automatically maintained throughout the entire range of the variable speed ratio adjustment.

Roll Handling Attachment

The Baker-Raulang Company, Cleveland, Ohio, announces a new motorized roll-handling attachment for their standard narrow-carriage fork-type trucks which makes them revolving roll handlers. The attachment is so constructed that it may be removed quickly from the truck chassis and replaced with the usual forks for handling baled pulp or other material in the mill or warehouse. Available in capacities up to 6000 pounds, the roll-handling attachment is made for rolls up to 50 inches in diameter. It consists of a scoop or cradle fabricated from formed and arc-welded high-carbon steel plate fastened to a heavy ball-bearing trunnion block on which it rotates.

Light Weight Arc Welder

Designed to meet the demand for a smaller unit of lighter weight than existing models, the "Junior Model" 200 ampere gasoline engine-driven arc welder is announced by The Hobart Brothers Company of Troy, Ohio. The new model is particularly adapted to installation on emergency service trucks, while oil field operators are using it for various purposes where the work factor involved does not call for the larger, 6-cylinder engine powered machines.

Crosslode Highway Expansion Joints

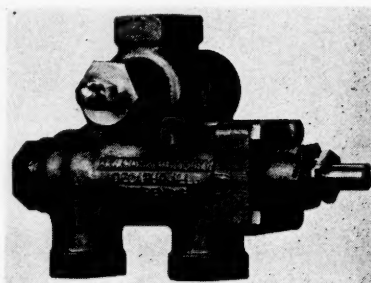
A new type of highway expansion joint made of Armco Ingot Iron is being distributed for road work by the Chicago Steel Products Company, Chicago Heights, Ill. Representing an unusual application, the Crosslode joints offer no resistance to closing when the concrete expands and prevent entry of foreign material that might prevent closing. They are designed to withstand shock of loads rolling from one slab to another across the joint. Armco Ingot Iron is produced by The American Rolling Mill Company of Middletown, Ohio.

F-M Duplex Steam Pump

Offering an economical means of handling oil, water or other free-flowing liquids at high pressures and in large quantities, a duplex steam pump with eight-cover slide-pot type fluid end and improved piston valve steam end is announced by Fairbanks, Morse & Company, Chicago, Ill. This pump was developed especially for industrial and oil field boiler feed service, but is adaptable to general industrial, railroad and municipal applications.

Hydraulic Tractor Valve

Made with 1-inch iron pipe inlet and return connections and 3/4-inch cylinder, a new Hydraulic Tractor Valve manufactured by A. W. Cash & Company, Decatur, Ill., is of the double-acting type, having four positions: raise, stationary, lower and float. In the stationary position the oil recirculates back through the tank at a very low pressure, eliminating power consumption when cylinders are not in motion. Of the rotary type, the valve reciprocates to open a nitralloy seated valve in the cylinder line for the raise position, and by using this feature the cylinder is prevented from leaking down. It is also equipped with a built-in pressure relief valve of nitralloy trim.



Double-acting Type Valve

Fibrous Glass Insulation

A new application for fibrous glass made by the Corning Glass Works of Corning, N. Y., has been developed by the American District Steam Company, North Tonawanda, N. Y., for the insulation of underground steam lines. Known as ADSCO-Corning Filler Insulation, the new product is declared to have a high thermal insulation efficiency with a low conductivity rate of 0.33 at 4 lbs. density. It is composed of long flexible fibres of true glass in a soft resilient mass resembling cotton batting but possessing the permanence and chemical characteristics inherent in glass. Very light in weight, it is fire-proof and is unaffected by water, acid or fumes. The insulation is packed in strong paper bags at a density suitable for maintaining a thermal insulation efficiency for pipe lines operating at a steam temperature of 650 degrees Fahrenheit, or it may be supplied for higher temperatures.

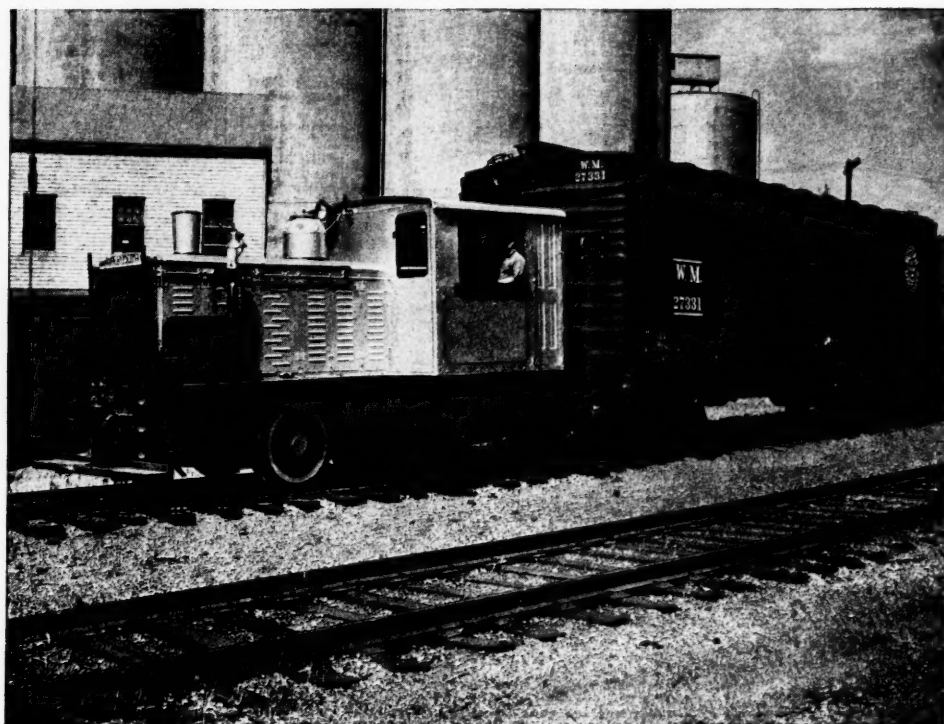
103,680 STARTS AND STOPS

*What
a
Transmission!*

103,680 Starts
and Stops in
90 Days!

Total Fuel and
Maintenance
\$1.81 Per Day!

7 years' average
... all year service



HERE'S THE STORY!

● During the grain storing season the National Milling Company division of the NATIONAL BISCUIT CO. switches 24 hours a day, seven days a week for a period of approximately three months. **THE GRAIN MUST MOVE.** Eight cars per hour through the car dumper -- six stops and starts for each car movement -- 103,680 starts and stops in 90 days for the sturdy Plymouth Switcher -- and the rest of the year handling the ORDINARY yard switching.

NO FAILURE OF ANY PART OF THE FAMOUS PLYMOUTH TRANSMISSION IN SEVEN YEARS. AND ONLY ONE CLUTCH REPLACEMENT.

Your service probably isn't this tough but here is a vivid picture of what these sturdy little switchers can take. If you want economical haulage, check into Plymouth's Proven Performance!

PLYMOUTH LOCOMOTIVE WORKS

(Division of the Fate-Root-Heath Company) - PLYMOUTH, OHIO

PLANT SWITCHING
is cheaper with

PLYMOUTH

GASOLINE • DIESEL • ELECTRIC • BUTANE • PROPANE

LOCOMOTIVES



THE producing and selling companies affiliated with Appalachian Coals, Inc., offer the largest assortment of high quality coals in the world, suitable for all industrial, by-product, metallurgical, gas producer and domestic uses.

Over 40 million tons of the "finest bituminous coals in the world" are available annually from the ACI companies which operate in eastern Kentucky, eastern Tennessee, southwestern Virginia and southern West Virginia.

These ACI companies are dependable sources of supply. They assure prompt delivery. They back their retail outlets with engineering and merchandising service. They help consumers, through their own fuel engineers and the Fuel Engineering Division of ACI, use ACI Quality Coals in the most economical way.

Learn more about the ACI companies. Write for "Where to Buy ACI Quality Coals," listing the names of producers and their agents.

Appalachian Coals, Inc.
TRANSPORTATION BUILDING-CINCINNATI, OHIO

THE SEABOARD AIR LINE

Its Competitive Position
in the Economic Renaissance
of the Southeast.

Booklet upon Request.

DU BOSQUE & CO.

Specialists in Railroad Bonds

25 Broad Street, New York, N. Y.

THE ESTABLISHED POLICY

of this Bank is to cooperate
with meritorious Business.

Correspondence invited

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, *President*
BALTIMORE, MARYLAND

Member Federal Reserve System
Member Federal Deposit Insurance Corporation

» » » Finance « « « AND KINDRED SUBJECTS

Business Not to Blame

The speech of Assistant Attorney General Jackson broadcast from Washington last month, placing the blame upon big business for the current recession, has met with strong denials on the part of business men in many lines. It is agreed that the diatribe came at an unfortunate time, when enterprise is struggling to overcome a buying slump that apparently has been caused more by fear of what the future may hold than from any other reason.

It was but a short time ago that an economy of higher prices was advocated and higher wages for labor insisted upon as a way out of the depression. This is apparently overlooked in the attempt to throw back upon business the charge that it is to blame for the ills from which the country is suffering.

Profits Tax and Credit

The National Association of Credit Men in petitioning Congress to repeal the undistributed profits tax had this to say: "The interests of government, business and the general welfare would be materially served by repeal of the surtax on undistributed corporate profits. This conviction is based upon a careful and unprejudiced observation of the effects of the law in the field of business generally and particularly in that of credit."

The Credit Association has a membership of 20,000 manufacturers, banking and wholesale firms.

The petition declares that "the maintenance of sound credit conditions is an essential factor in promoting business activity and such sound credit conditions are interfered with not only when companies are unable to meet their obligations promptly, but also when conditions exist which hamper the extension of credit in accordance with commercial requirements. * * * Credit conditions must inevitably be influenced by the general effect of a basic tax law upon the entire business structure of the country."

If the attitude of Congress is correctly gauged, there is ground for hope that the undistributed profits tax will be greatly modified, or abolished altogether. The reason given at the time it was passed was that by the wider distribution of funds a greater buying power would be created, and also that it would tend to loosen the jam in commercial borrowing, which has remained at a discouragingly low figure.

Neither of these objectives appear to have worked, but on the other hand the tax has inflicted a severe hardship upon small industry which cannot put back earnings into plant expansion, nor increase its surplus for a rainy day.

It has a distinctly adverse bearing upon the credit situation, and business generally feels that Congress took misguided action when the bill was made into law. Excessive taxation can reach a point of diminishing returns and it would seem to be the part of wisdom to study the entire tax question from that standpoint, because undoubtedly in view of the size of the debt the government must have more revenue. It will get it more quickly by encouraging business and offering inducement to business to expand than by any other means.

Reducing State Debt

The North Carolina Department of Conservation and Development reports that more than \$90,000,000 of state debt has been retired during the past five years. Last month \$12,000,000 in cancelled bonds and coupons were destroyed, while on the same day the State Treasurer paid out \$6,719,000 in
(Continued on page 56)

THE ANSWER

*for Material, Men
and Markets...*



Scores of Plants Have Found
Advantageous Locations Here

UPPER LEFT: Aerial view, Savan-
nah Sugar Refining Corp.

LOWER LEFT: Savannah Wire Cloth
Mills.

RIGHT: Pan-American Petroleum
& Transport Co., to right;
Certainteed Products Corp. to left.

Industrial sites at Port Wentworth, on deep water a few miles north of the City of Savannah, possess almost every advantage that cuts manufacturing costs and builds business in rich, new markets.

Here you will find water, sewers, electric light and power already available; ample housing facilities and plenty of skilled and common labor of white American stock at less cost. A climate that saves in fuel expense. Exemption from taxes for new industries for five years.

In Georgia is fast-growing timber in unlimited acreage.—Minerals for almost every commercial use.—Those agricultural products like cotton, fibre, soy beans, tung trees, sweet potatoes, that chemists are now using to revolutionize industry.

Whether you are considering a complete new factory, a branch plant or a distributing warehouse, you should get the full facts about Savannah and Port Wentworth.

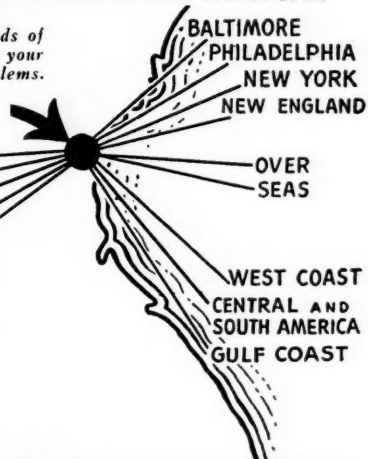
*Ask your engineers and accountants to outline the needs of
your company and let us furnish you a comparison to your
present figures that may spell the answer to your problems.*

**PORT
WENTWORTH**
CORPORATION

Savannah, Ga. or 17 East 42nd Street—New York

Served by five trunk lines.
The principal ocean outlet for
the products of the Southeast.
Fully equipped with modern
docks, warehouses, etc., for
handling coastwise and over-
seas shipments.

5
TRUNK
LINES



Raw materials • Plenty of workers • Ample housing • Lower Taxes

20% Of Purchases Bought on Impulse! WITH Co-ordinated Packaging

**Your Products Take Advantage of
That First Impulse-- which is to BUY**

A study of consumer reactions has shown that about 20% of the purchases in a modern grocery store are a direct result of an "impulse" to buy certain products. This impulse buying is attributed largely to package designs. So a good package capitalizes on woman's first impulse—to buy. If you have several wrappings or different products, the packaging or packages should bear relation to each other, having a coordinated style in color or design, so one would help identify and advertise the other. Also by adhering to this unified idea of *matched packaging* you can save money on art, plates and printing.

- Let us submit designs on folding set-up boxes, cartons, counter and window displays, and shipping containers. ●

OLD DOMINION BOX CO., INC.
LYNCHBURG, VA.

Winston-Salem, N. C. Burlington, N. C. Asheboro, N. C.
Pulaski, Va. Martinsville, Va. Charlotte, N. C. Kinston, N. C.

Old Dominion Paper Boxes

GALVANIZING

(HOT DIPPED PROCESS)

The largest job galvanizing plant in the United States
GALVANIZED PRODUCTS FURNISHED

Joseph P. Cattie & Bros., Philadelphia, Pa.

DRAWING MATERIALS

Drawing Instruments, Slide Rules, Planimeters, Drawing and Tracing Papers, Drafting Room Furniture, Surveying Instruments, Tapes.



PIGMENT Waterproof Drawing Ink
in black and white and a wide range of **OPAQUE COLORS**. Catalogue sent on request. Inquiries solicited.

F. WEBER CO. 227 PARK AVENUE
Est. 1853 BALTIMORE, MD.

LONG LIFE TO LUMBER!

To add from 8 to 20 times the ordinary life and service you might expect from your lumber, use only pressure-preserved woods treated with ZMA or Creosote. Eppinger & Russell Co. has, for 50 years, been treating poles, ties, posts, piling, cross arms, cross ties and other timber for the nation's leading industrial firms and utilities. Safeguard your lumber against dry rot and termites by employing this outstanding wood-treating service.

PRESSURE-TREATING PLANTS AT:
Jacksonville, Fla.
and
Long Island City, N. Y.

EPPINGER & RUSSELL CO.
WOOD PRESERVERS SINCE 1878
84 Eighth Ave., New York City

"Finance and Kindred Subjects"

Reducing State Debt

(Continued from page 54)

interest and principal on state obligations. In 18 months nearly \$20,000,000 of reduction in debt has taken place.

During the same period no new bonds were floated, nor was any additional money borrowed. The State Treasurer reports that North Carolina has lived within its budget during the past four years and has not borrowed one cent for current operating expenses since January, 1933.

The state constitution requires that the state and its subdivision must confine new borrowings to not more than two-thirds of the amount by which their bonded debt is reduced each preceding year. If a city or town wishes to exceed the limitation stated, it can only be done in a special election through a vote of the people.

Encourage Utilities to Expand

The importance of the electric power industry is shown by the \$12,000,000,000 private investment in it, and the service it is rendering 26,000,000 American homes. Those in charge of its affairs have made plain that a reasonable government policy of fairness and understanding in place of government competition and suspicion would start the wheels of progress in this field in a way that would mean the spending of a billion dollars a year for expansion work.

Seventy per cent of the population enjoy the service of the private utilities. They do a gross business of \$2,250,000,000, with 208,000 miles of transmission lines. Their annual payroll is approximately \$360,000,000, and their taxes have increased twenty times since 1912, amounting now to \$300,000,000 a year.

Despite handicaps, the industry's policy has been to reduce rates constantly over a long period. There is apparent the definite necessity and wisdom of encouraging private enterprise which is rendering such necessary service to the people.

Life Insurance Increases

In a statement to the press, Alfred L. Aiken, President of the New York Life Insurance Company, while declining to make any prophesies or give any opinion concerning economic trends in 1938, states that new paid insurance of his company during 1937 exceeded that of the year previous by approximately \$24,000,000, and he looks forward to a still larger volume in 1938.

The company made new investments in mortgage loans in the year past exceeding \$35,000,000, while its total disbursements for dividends to policy-holders were \$38,000,000.

Savings Deposits

Savings deposits increased more than one billion dollars during the year ending June 30, 1937, reaching a total of \$24,499,000,000 which is \$3,373,000,000 above the low point of 1933. The number of depositors however is almost 9,000,000 less than the high point reached in 1928.

Comparatively little effort has been made recently by savings banks to increase the number of depositors or the amounts of their deposits. As a matter of fact, owing to the difficulty of making investments that were profitable and regarded as safe, deposits beyond small amounts in some instances have been declined.

An abundance of funds will be available for new enterprise and expansion when business decides to move forward.

MANUFACTURERS RECORD FOR



One of a Series, "A Five-Year Record"

A UTILITY SERVICE THAT BEGINS AT HOME...

SOME 18,680 of its employees are protected by the Associated System's insurance plan. This plan has been in effect in final form since 1932. Under it employees are given both ordinary life and group policies. Total amount of insurance in force is \$77,187,000.

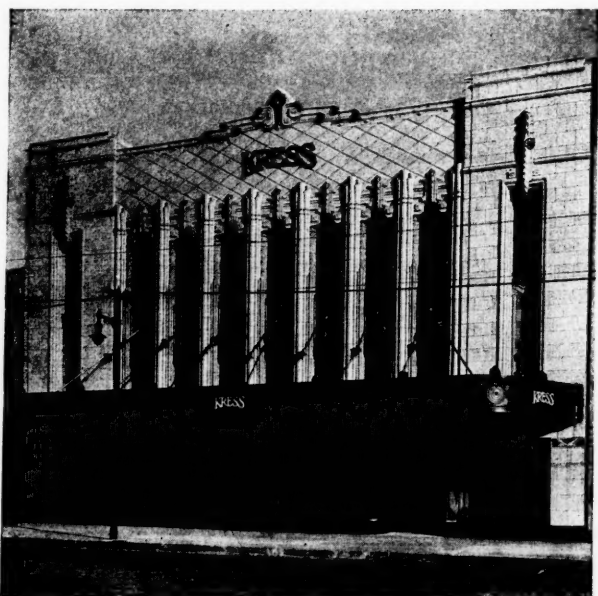
This insurance has paid 755 death claims, amounting to \$2,692,000. About 25% of the employees who have died since the plan has been in force carried no other insurance. Another 18% had \$500 or less.

Part of the cost of this insurance is paid by Associated companies. This is a contribution to the welfare of employees. And welfare of employees has a lot to do with quality of utility service.



ASSOCIATED GAS & ELECTRIC SYSTEM

THIS FIVE-YEAR-OLD INSTALLATION HAS



S. H. Kress Co., East Orange, N. J. . . . E. F. Sibbert, Architect
Virginia Black Serpentine used for bulkheads.

influenced decisions on at least five other jobs!

More than five years ago, Virginia Black Serpentine was used for the bulkheads in the Kress Store, in East Orange, shown above. The attractiveness of this natural quarried material, the way it has retained its polish, and its all-round satisfactory performance through several severe Winters and equally trying Summers, influenced neighboring owners to use it to re-model and decorate their stores.

Slaters', Black, Starr & Frost—Gorham, Ethel Klein, Sportswear, and the Peck & Peck Shop in East Orange are typical of the smart stores in many other cities for which Virginia Black Serpentine has been used for purposes of economy, as well as color value. It is being used quite widely on interiors also, for base, door trim, pilasters, mantel-facings, etc.

We will be glad to answer inquiries promptly, and to send you a set of samples, conveniently boxed, showing the range of stone from the Alberene Quarries, including mottled dark blues and greens.

Virginia Black SERPENTINE

ALBERENE STONE CORPORATION OF VIRGINIA
419 FOURTH AVENUE, NEW YORK, N. Y. Quarries and Mills at Schuyler, Va.

INDUSTRIAL NEWS

Opens Atlanta Office

To give closer contact and quicker service to Southern valve users and distributors, Jenkins Bros., New York, N. Y., have opened a new branch office and warehouse at 376 Spring street, Atlanta, Ga. C. B. Yardley is the branch manager.

Bonney ThredOlets in Tank Construction

The Bonney Forge and Tool Works of Allentown, Pa., manufacturers of Weldolets, Thredolets, drop forgings, flanges, wrenches and tools, directs attention to the use of Bonney ThredOlets on a by-pass valve of a water tank for a fire extinguisher system at the plant of the Southern Cotton Oil Company, Savannah, Ga. With a capacity of 100,000 gallons, the tank is 28 feet high, the bottom being 100 feet above ground. A 36-inch line runs from the ground to the tank and a 10-inch line from the house to the plant. Thredolets, 10 inches by 4 inches, were used for the by-pass and were installed by welding, thereby eliminating the cost of cutting, threading and fitting the main line. Georgia Supply Company is the Savannah distributor for Bonney Forge and Tool Works.

Heating and Ventilating Exposition

Practically all available exhibit space has been taken for the Fifth International Heating and Ventilating Exposition to be held at Grand Central Palace, New York, during the week of January 24 to 28, 1938. More than 270 companies will be represented by displays, it is announced. The American Society of Heating and Ventilating Engineers will hold its forty-fourth annual meeting in New York during the same week.

E. I. du Pont de Nemours Dividends

Directors of E. I. du Pont de Nemours & Company, Wilmington, Del., have declared the regular quarterly dividend of \$1.50 a share on the debenture stock and the regular quarterly dividend of \$1.12½ a share on the preferred stock—\$4.50 cumulative, both payable January 25, 1938, to stockholders of record January 10, 1938. A "year-end" dividend of \$2.00 a share on the common stock payable December 14 to stockholders of record November 22, was also declared.

Featuring USS Stainless Steels

USS Stainless Steels as applied in various chemical processes, with action provided by three moving laboratory tests, are being featured at the United States Steel exhibit at the Exposition of Chemical Industries in progress at Grand Central Palace, New York from December 6 to 11.

Crane Engineering and Research Division

President Charles B. Nolte of Crane Company, Chicago, Ill., announces the formation of a division of engineering and research with L. W. Wallace, head of engineering research for the Association of American Railroads, as director. The new division will comprise the existing division of research and development and the product engineering department of the company.

Simplex Wire Opens Atlanta Office

Simplex Wire & Cable Company, Cambridge, Mass., announces the opening of a branch office at 231 Healey Building, 57 Forsyth Street, Atlanta, Ga., under the management of A. Kenneth Felix.

Corrugated Steel Sheet Piling

In a catalogue recently issued by Corrugated Steel Sheet Piling Corporation, Chicago, Ill., information and specifications are presented on Corrugated Steel Sheet Piling, largely used in the construction of sewers, sewage disposal plants, docks, shore protection, soil conservation and building excavations. This piling is made in two types—the Standard Section with short interlocking clips securely welded to the piling, and the Interlock Section with a continuous rolled interlock—the latter being recommended where piling is installed permanently. Both types are furnished in gauges from 8 to 12 and the depth of corrugations are 1¼ inches.

Freeport Sulphur Earnings Up

Consolidated net income of Freeport Sulphur Company, New York, N. Y., for nine months ended Sept. 30, 1937, amounted to \$1,979,360, compared with \$1,510,511 for the similar period in 1936, according to a report of President Langbourne M. Williams, Jr., to directors. These earnings were equivalent to \$2.41 a share on 796,380 common shares in 1937, compared with \$1.82 a share in 1936, after provision for preferred dividends, depreciation, depletion and Federal taxes other than surtax on undistributed profits.

Plant Expansion Represents Expenditure of \$254 a Year for Each Employee

The American Rolling Mill Company, Middletown, Ohio, expended an average of more than \$254 a year for each employee for plant expansion and improvement since 1929, according to Charles R. Hook, president. "When a company keeps its plants up to date, it grows and new jobs are created," says Mr. Hook.

\$350,000,000 in Continuous Rolling Mills

Since The American Rolling Mill Company of Middletown, Ohio, announced the development and successful operation, ten years ago, of a continuous steel sheet mill, approximately \$350,000,000 have been invested in such units, according to Charles R. Hook, president of The American Rolling Mill Company, which rolled its first sheet by the continuous process at Ashland, Ky., in 1923. It was not until 1927, however, that the process was formally introduced to the industry. According to present schedules there will soon be 27 continuous sheet and wide strip mills in operation in this country with a combined annual capacity of more than 114,000,000 net tons. All mills of this type have been licensed by The American Rolling Mill Company.

Arc-Welding in Automotive Industry

The practical adaptability of electric arc-welding to the heavy machinery industry is demonstrated in the shops of the Clearing Machine Corporation of Clearing, Ill., where huge steel presses are built ranging in capacities from 300 tons to more than 3000 tons, with a range in weight even more striking. For this type of machine, where absolute adherence to close tolerances is of paramount importance, the use of alloy steel plates and arc welded fabrication has come into its own.

(Continued on page 60)

FLORIDA'S

geographical location

with the Atlantic on the East, the Gulf on the West, insures a year 'round temperate climate.

In Florida You Will Find:

A comfortable place to live—summer and winter.

Fruits and vegetables growing during the off season in other parts of the nation.

The vacationists' paradise, hunting, fishing, surf bathing and other outdoor sports and recreational pastimes.

Advantages offered many lines of industry.

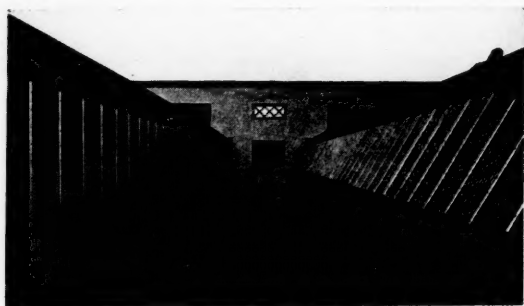
Make a survey of the State from the angle of your particular likes or needs.

For literature and general information—write

MODEL LAND CO.

Flagler System

ST. AUGUSTINE, FLORIDA



Air Corps Shops and Hangar, Middletown, Pa.
42,000 sq. ft. CWG in Monitor Construction

SPECIFY ORIGINAL SOLID CORRUGATED WIRE GLASS

It *diffuses* light with a minimum of shadows. It is *practically* self-cleaning and can be used on a roof of any material and supply daylight in manufacturing and industrial plants—an important factor in all modern production.

Also used with excellent results on sidewalls, mar- quises, canopies and wherever daylight is needed.

Our Engineering Service Department can aid you on your skylighting problems. Write or wire.

PENNSYLVANIA WIRE GLASS CO.
1612 MARKET STREET
PHILADELPHIA, PENNSYLVANIA

Water Purification Plants *Any Type—Any Purpose—Any Capacity*

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.
Rialto Bldg. Kansas City, Mo.

FILTERS

Water Filters for Municipalities, Textile Finishing Establishments, Rayon Manufacturing Plants, Swimming Pools, Raw Water Ice Plants, Laundries, etc.

ROBERTS FILTER MANUFACTURING COMPANY
604 Columbia Avenue Darby, Pennsylvania

Filtration and Pumping Equipment *For Water Works and Swimming Pools* *Sales and Installation*

BURFORD, HALL AND SMITH
140 Edgewood Avenue, N. E.,
Atlanta, Georgia

NORFOLK TANK CORPORATION

NORFOLK, VA.
Baltimore Rep: Allan U. Bevier, Inc., 322 S. Fremont Ave.

STEEL PLATE FABRICATORS

TANKS:	Standpipes	Angle Rings
Pressure	Bins Hoppers	Dredge Pipe
Truck	Stacks	Asphalt Equipment
Trailer	Pipe Coils	Industrial Specialties

VATS

Another Cole Product

If you require various vats for different purposes we can furnish them, made especially for your requirements—from your specifications and designs or ours. Vats made from Quality steel, Nickel Clad and Stainless Steel, Alloy steel, Aluminum, Monel metal, Lead and Tin lined, etc., for acid, NaOH storage, chemicals, dyes, etc.

Other COLE products are: Bins, Kettles, Kiers, Boilers, Heavy Pressure Vessels, Tanks, Nickel-clad and Stainless Steel Vessels, Towers, Fabricated Platework, Etc.

Write for "Tank-Talk"—No. 11-D.

Tank Builders For Over 80 Years!

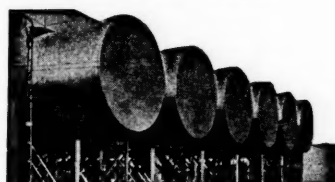
R.D.COLE MFG.CO.

NEWNAN ··· GEORGIA

For Warm Relations in Fabrication

SOUTHLAND PRODUCTS

—WELDED OR RIVETED—



We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

WELDED
OR RIVETED
CONSTRUCTION

This applies to field as well as shop built equipment.

Write us for information and quotations.

CHATTANOOGA BOILER & TANK CO.
CHATTANOOGA, TENN.

DAVIS

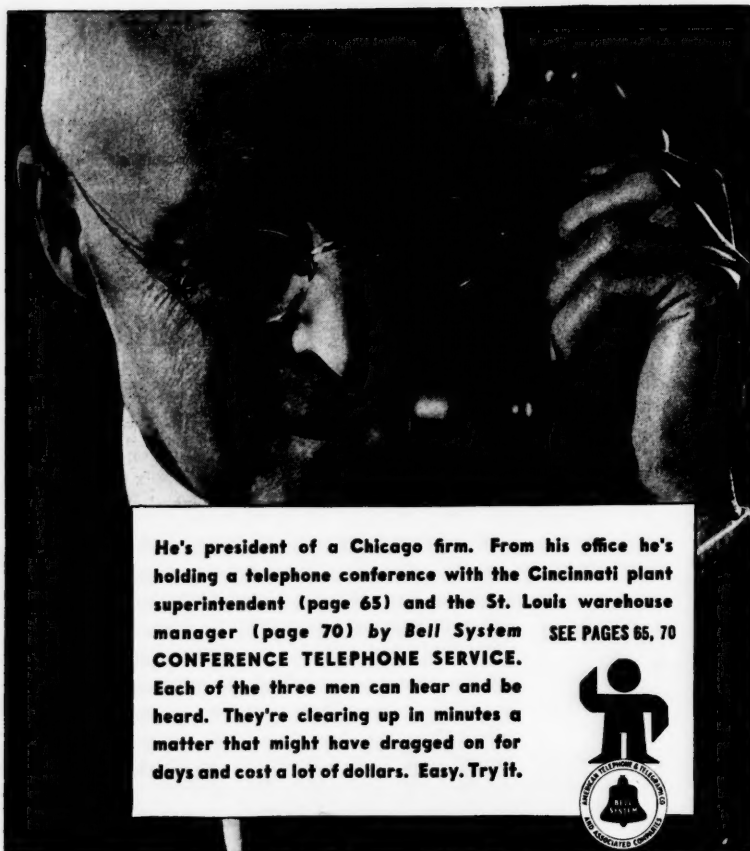
CYPRESS TANKS

SAVE with CYPRESS

Long-lasting cypress, unequalled for low depreciation and various uses, is the wood used in Davis Tanks. For 50 years, Southern plants in all lines have been installing Davis Cypress Tanks and steel towers. Now, the young Southern giant, the paper and pulp industry, is coming to us on an increasing scale.

Let us estimate on your tank needs.

G. M. DAVIS & SON
P. O. Box 5, Palatka, Florida



He's president of a Chicago firm. From his office he's holding a telephone conference with the Cincinnati plant superintendent (page 65) and the St. Louis warehouse manager (page 70) by Bell System CONFERENCE TELEPHONE SERVICE. Each of the three men can hear and be heard. They're clearing up in minutes a matter that might have dragged on for days and cost a lot of dollars. Easy. Try it.



INDUSTRIAL NEWS

(Continued from page 58)

Homestead Valve Southern Representatives

Southern representatives recently appointed by Homestead Valve Manufacturing Company, Inc., Coraopolis, Pa., include Clowe and Cowan, Inc., 401 Harrison St., Amarillo, Tex.; Paul R. Winston Co., 206 Construction Building, Dallas, Tex., and Tazewell Buchanan, 2620 Grace Street, Richmond, Va.

Worthington Oil and Gas Engine Sales Manager

Worthington Pump and Machinery Corporation, Harrison, N. J., announces the appointment of W. E. Wechter as Manager of Oil and Gas Engine Sales, Atlantic Division, succeeding R. L. Howes, recently resigned. Mr. Wechter will supervise oil and gas engine sales in the Atlantic seaboard territory, including Boston, where the Worthington offices are located; New York, Philadelphia, Washington and Atlanta.

Railway Express Air Shipments

Reaching an all-time high for any one month, air express shipments in the nationwide system of Railway Express Agency, New York, N. Y., totaled 67,673 in October, according to the Air Division of the Agency; September's shipments, previous high month, were 59,879.

United States Steel Exhibits

An attractive exhibit featuring sheet and tubular products will be presented by the United States Steel Corporation Subsidiaries at the Fifth International Heating and Ventilating Exposition at Grand Central Palace, New York, N. Y., January 24 to 28. Two photomurals will illustrate the application and advantages of USS Sheet Products in the heating and ventilating industry, while two others will graphically portray how USS

National Tubular Products offer economy and long life in various applications. United States Steel subsidiaries participating include: American Steel and Wire Company, Carnegie-Illinois Steel Corporation, Columbia Steel Company, Cyclone Fence Company, National Tube Company, Scully Steel Products Company, and Tennessee Coal, Iron and Railroad Company.

Machine Shop and Foundry Offered

Unless prior sale is effected privately, Thomas T. Huey, Bessemer, Ala., as trustee in bankruptcy, will offer at public auction March 1, 1938, at the office of Reese Murray, Referee in Bankruptcy, Federal Building, Birmingham, Ala., the fully-equipped machine shop and foundry, with patterns, two half-blocks of land, buildings, scrap, etc., of the estate of Bessemer Foundry & Machine Company, Bessemer. The property is adjacent to railway tracks, and electric power and water are convenient.

Engraved Invitations

Something new in engraved invitations was sent out recently by Pennsylvania Shipyards, Inc., of Beaumont, Tex., for the launching of the Gulf Oil Corporation's motor vessel "PARATEX." Instead of using printer's ink on paper, the invitation was engraved with steel letters on a steel plate, the engraving being done in molten steel applied as ink by electric welding, using shielded arc equipment supplied by The Lincoln Electric Company, Cleveland, Ohio.

1938 Calendars

Calendars for the year 1938, coming to the office of the Manufacturers Record, have been received from the following: Pennsylvania Railroad; General Electric Company, Schenectady, N. Y.; Hercules Powder Company, Inc., Wilmington, Del.; The Jaeger Machine Company, Columbus, Ohio; International Harvester Company, Inc., Chicago, Ill.; O. J. Maigne Company, New York, N. Y.; Baltimore Commercial Bank, Baltimore, Md.; Rock Island Lines, Chicago; Alban Tractor Company, Inc., Baltimore, Md.; Hercules Kalon Company, Inc., Boston, Mass.

55-Mile Chain Link Fence

William F. Brannan, president of Anchor Post Fence Company, Baltimore, Md., announces that his firm has been awarded one of the largest fencing contracts ever let in this country. The contract, which involves \$188,000, calls for 55 miles of 6-foot link chain fence to be erected around reservoirs on both sides of the open sections of the Colorado River Aqueduct bringing water from Parker Dam to Los Angeles and vicinity. Exact location of the job is in the Imperial Valley Desert northeast of the Salton Sea. The fence will be manufactured at the Baltimore and Los Angeles plants of the company, and will require more than 1500 tons of steel. Contract was awarded by the Metropolitan Water District of Southern California.

Mall Tool Purchases Wappat Incorporated

Assets, manufacturing plant and equipment of Wappat Incorporated, Pittsburgh, Pa., have been purchased by the Mall Tool Company of Chicago, Ill., and in the future transactions regarding the manufacture, distribution and sale of Wappat portable tools will be conducted in the name of the purchasing company, either at Chicago or Pittsburgh. Wappat tools may be purchased through the established Wappat jobbers and distributors and through the Mall Tool Company jobbers and distributors, or direct from the company, which will continue to manufacture the entire Wappat line, consisting of saws, grinders and drills.

TRADE LITERATURE

SALES HELP—

"How to Increase Your Sales"—is the title of a 92-page booklet being distributed by the Porcelain Enamel Institute, 612 N. Michigan Avenue, Chicago. Sample copies may be obtained without charge by addressing the Institute.

SOUTHERN STONE—

Booklet—"The Building of a Great Industry," attractively bound and illustrated, tracing the development of the Coggins Industries, founded by B. F. Coggins, covering all phases of quarrying and finishing Southern granite and marble; published jointly by—The Georgia Granite Corporation, Elberton, Ga.; The Oglesby Granite Quarries, Elberton; Southern Quarrying Company, Elberton; Berkeley Granite Corporation, Atlanta, Ga.; Columbia Marble Company, Marble, N. C.; Moretti-Harrah Marble Corporation, Sylva, Ala.; Beaver Dam Granite Company, Elberton, Ga.

INDUSTRIAL THERMOMETERS—

Catalog No. 11254—Covering the complete line of TAG Industrial Thermometers. C. J. Tagliabue Manufacturing Company, Brooklyn, N. Y.

SEABOARD AIR LINE RAILWAY—

Booklet—"The Seaboard Air Line of 1937—Its Present Competitive Position in the Economic Renaissance of the Southeast," designed to bring maintenance charts of the 1936 booklet up to date and show the marked improvement accomplished in operating efficiency.

Du Bosque & Co., 25 Broad Street, New York, N. Y.

World Cotton Turnover at Record Volume—

World consumption of cotton in the 1936-37 cotton season reached the all time high record of 30,901,000 bales, according to a review of the trade contained in the tenth Cotton Yearbook of the New York Cotton Exchange just issued. The previous high record, established in the season immediately preceding, was 27,708,000 bales. Prior to that season, the world had never used as much as 25,000,000 bales in any one season.

World production of cotton during the season of 1936-37 reached the extraordinary total of 30,700,000 bales, according to statistics in the book. This total consisted of 12,375,000 bales produced in the United States and 18,325,000 produced in foreign countries. Thus, the United States contributed 40 per cent and foreign countries 60 per cent to the world total.

The Cotton Exchange Yearbook was prepared under the direction of Alston H. Gar-side, Economist of the Exchange. It contains comprehensive statistics on world supply and world distribution of American and foreign growths of cotton, prices of cotton, yarn, and cloth, mill activity, and other data of interest from a cotton market standpoint.

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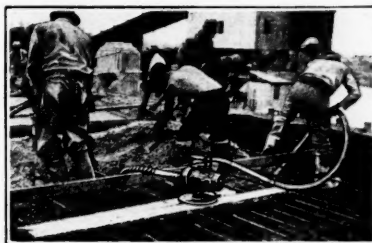
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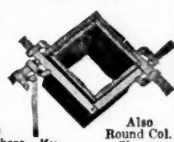
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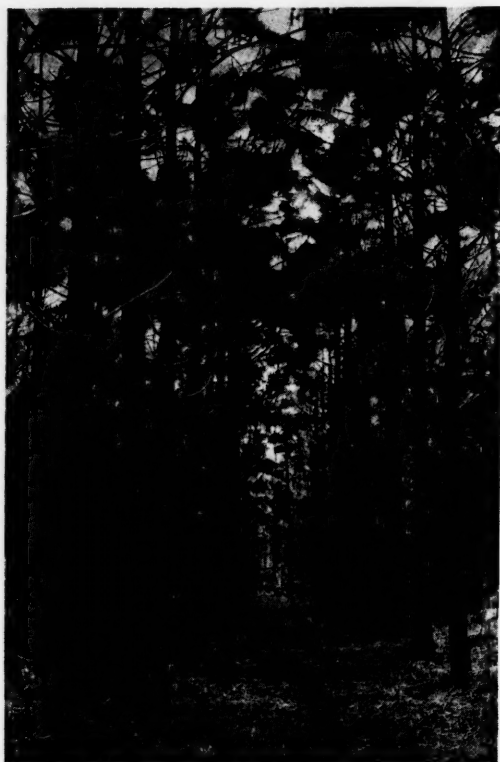
Room 711, Boxley Building, ROANOKE, VA.

A FOREST OF THE SOUTH

The Southern Railway, interested in the conservation of Southern forests, is operating a demonstration forest of its own at Pregall, S. C., containing 11,043 acres. The land has been cut over from time to time and burned almost every year, but on most of it there was a stand of long-leaf and loblolly pines, a few slash pines and some hardwoods. In 1925 it was decided to operate the tract as a perpetual forest to demonstrate that it would pay to grow pine trees.

When the operation started in 1925, there were a total of 1,778,050 pine trees of all three varieties, four inches or more in diameter at breast height. Up to September of this year, 81,011 trees had been cut—54,683 for lumber and 26,328 for poles, and 3,880 cords of pulp wood were sold, much of it having been salvaged from the tops of trees cut for other purposes.

A substantial proportion of the long-leaf trees nine inches and over in diameter at breast height are being worked for turpentine and rosin, which when released by the operator, will be cut for poles and pulp wood.



As a result of fire protection, natural reseeding has taken place and, including the plantings, actual counts of trees on representative acres show there are now 3,928,000 trees of potential value. Subtracting the trees already cut from the number originally on the land, these figures show an increase of about 2,231,000 trees plus 12 years' growth on the remaining original stand of 1,697,048 trees.

Encouraging Industrial Development

BY

Geo. C. Smith

*Assistant to the President
Missouri-Kansas-Texas Lines*

Throughout M-K-T Lines territory Chambers of Commerce are organizing to encourage industrial development, particularly processing of agricultural and mineral products. The Chemurgic Conference in Oklahoma, plans made by Texas for a large exhibit of minerals at Dallas, and conferences at various large and small communities looking toward the capitalization of industrial opportunities, are all pointing the way to progress.

In October and November 80 new industries and expansions were reported, making a total for 11 months of 275. Among these are 28 manufacturing and processing plants, 12 expansions, 5 new mines or quarries, 18 new mills, 73 new

warehouses, and 46 new supply and storage yards.

Total investment represented in this development is \$5,300,000 of which 40 new manufactories and expansions represent \$3,500,000.

Dallas attracted 9 new factories, including the Willard Storage Battery Company, the Vitalic Battery Company, National Lead Company, National Cylinder Gas Company and others.

At Rotan, Texas, the National Gypsum Company made a substantial plant expansion. At Texas City, Texas, the Pan-American Refining Company, and Republic Oil Company expanded operations with an additional investment of \$1,500,000.

These are only a few of an extensive list. New oil pools were opened at different points and large new gas fields were developed at Dickinson in South Texas, as well as at Elk City in Western Oklahoma.

Our greatest industrial expansion and development is being made right now.

The Southern Pine Lumber Industry in 1937

(Continued from page 36)

1937 performance is nearly four times heavier than the pit mark set for the like period in the depression year 1933, it is 16% below 1930, 52% below 1929, and 67% below the similar period of 1928, the peak year.

About 22% of the total cost of an average frame dwelling normally goes for lumber and millwork; 28% for all other materials, supplies and fixtures; and 50% for the labor used in construction, installation, etc. The ratio of labor to lumber is 2.3 to 1, which means that an increase of 5 per cent in labor cost on a house involving \$5,000 would be equal to an increase in lumber cost of nearly 14 per cent. Expressed another way, it would require a very heavy increase in the cost of lumber to put a definite check on building, while a comparatively small increase in labor cost could serve as a retardant.

The South has 57,265,000 acres, or 30%, of the saw timber acreage of the United States, and holds 199,297,000,000 bd. ft., or 12%, of the mature saw timber stand of the United States. Each year finds 6,799,000,000 bd. ft. of new timber growth in the South ready for sawing, or 58% of the total annual saw timber growth in the United States. The South could, under its existing timber supplies, produce 10,000,000,000 ft. of forest products per year for more than 60 years before exhausting its visible timber resources. Progress made in scientific research by the Government and through the various trade associations, involving fire and insect control, conservation and reforestation, utilization and replenishment, grades and manufacture, etc., will extend indefinitely the life of the industry. In fact, after all mature timber is removed and normal growth is established on cut-over areas, the South, according to a survey of the U. S. Government, will have a perpetual timber supply at the rate of the average drain from 1929 to 1934. The Southern lumber industry, therefore, will continue indefinitely as a leading employer of labor and as the industrial mainstay of countless rural communities.

With tremendous forest reserves and a capacity adequate to provide large-scale production, employment and consumption, the Southern lumber industry faces a bright future. Students of economic affairs foresee no impending economic disaster. They believe that 1938 may start in a less auspicious manner than 1937, but that improvement will gather momentum and find the latter half of the year with records closely approximating early 1937. On the whole, 1938 should

(Continued on page 68)

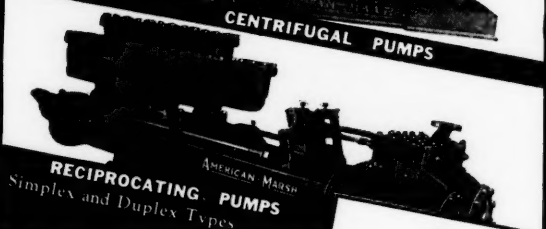
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EVERY
SERVICE



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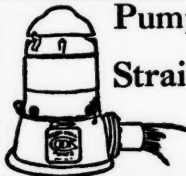
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Simplex and Duplex Types

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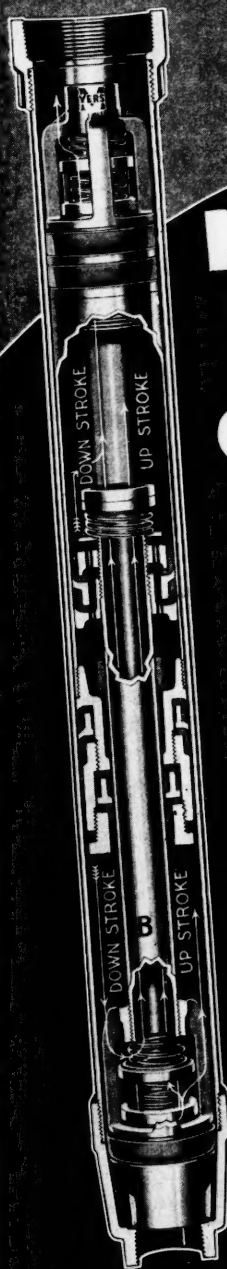
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Whether conditions are regular or otherwise, Myers Brass or Brass Lined Double Acting Cylinders in sizes for widely diversified requirements satisfactorily solve most deep well pumping problems. Styled by experts, precision built, dependable and economical to operate, they furnish the plus volume of water that lowers pumping costs and satisfies the most critical of users.

Ask for catalog and complete information.



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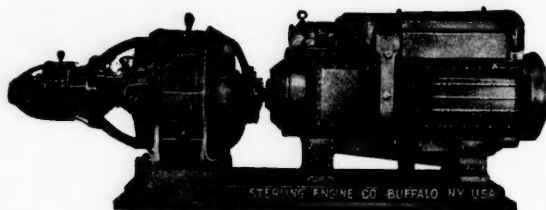
100 KILOWATT DIESEL ENGINE DRIVEN GENERATOR SET

The new Sterling Crankless Diesel Engine has paramount advantages in compactness—low equipment cost—freedom from vibration—low foundation cost—minimum investment and carrying charges. Now available in 75 and 100 kilowatt sizes.

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Internal
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Gas—Gasoline—Oil Engines

Larger sizes of these remarkable engines are being developed, and will be thoroughly proven and offered early in 1938. Investigate the merits of these valveless engines!

Sterling Crankless Diesel Engine. 100 K.W., 1200 R.P.M. Generator Set. Engine and generator mounted on cast iron bedplate, which is internally ribbed and braced and provided with a double edge. Units are connected with a Sterling Thermoid type flexible coupling within a cast housing at the driving end, fully enclosing the coupling. This is a completely assembled unit, requiring only connection of water lines, exhaust lines, fuel lines, and thermo couples and switchboard, to be ready for immediate service. It is a self-contained unit, with oil coolers and filters, electric starters, generator for charging the batteries mounted. Batteries are part of the regular engine equipment.

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CLAY WORKING MACHINERY

FOR BRICK, TILE AND BLOCK,
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Cut Spur, Bevel, Herringbone,
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All sizes. Every description. Oper-
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FREDERICK STOKERS

THE FREDERICK IRON & STEEL CO. —:— FREDERICK, MD.

ALSO A COMPLETE LINE OF CENTRIFUGAL PUMPS

Shipbuilding in the South During 1937

(Continued from page 35)

ships of 9,291 D. W. tons each, to be built for its own account, with the hope that they may be placed under private operation in essential trade services. Bids for these vessels are to be opened on February 1, 1938.

There is also under discussion, at the end of the year, the building of a group of high-speed oil tankers designed to meet naval requirements as to speed and other details on the basis of Government participation to cover the additional cost of a vessel to meet the higher speed requirements than those of the oil companies and to cover other national defense features.

Notwithstanding the fact of no contracts for the foreign trade in 1937, with the one exception noted, the shipyards of the United States have been busy during the year because of (1) the building of government vessels, (2) a considerable number of oil tankers and (3) a large tonnage of small craft, such as barges, towboats and ferries. The total commercial tonnage under construction on the East and Gulf coasts of the United States on December 1, 1937 was about 250,000 gross tons, of which approximately 165,000 gross tons is being built above the Mason-Dixon line, and approximately 85,000 gross tons below it.

Of the 36 Naval Vessels of 143,680 displacement tons under construction in the private yards in the United States on January 1, 1938 no less than 43,000 displacement tons are under construction in the South.

In addition to new construction there are extensive ship repair yards in all the important shipping ports along the East and Gulf coasts.

Employment on new construction throughout the country during the year as a total has been about 6 percent greater than 1936, while the average employment in ship repair plants has been somewhat greater than in 1936.

Under the present average rate of pay in the shipbuilding industry, which is approximately 80 cents an hour (as reported by the Bureau of Labor Statistics, Department of Labor) a volume of business amounting to \$1,000,000 will give employment to about 500 men for one year, about one-half of which labor is broadly distributed to industries supplying materials and equipment.

An outstanding piece of legislation in 1937 that will be of great benefit to the shipbuilding industry for many years to come was the authorization for the construction of an up-to-date model tank at

Carderock, Maryland, for the testing of ship models and ship propellers. This tank will be of great aid in developing the best under-water form of ships and the characteristics of propellers. This tank will be used for experiments on commercial ships as well as for Navy work.

Another Ship Launched in the South

Two months after the launching of the Gulfwave, a sister ship, the Gulfdisc slid down the ways at Sparrows Point, Md., on December 11, sponsored by Miss Margaret E. Nelson daughter of J. E. Nelson, treasurer of the Gulf Oil Co.

This ship, the fourth built within a year for the Gulf Oil Co., by the Bethlehem Shipbuilding Co., is of particular interest to the South for it is estimated that combined labor and material of Southern origin used therein amounted to approximately 45 per cent.

Of conventional tanker type for use between Gulf ports and north Atlantic ports the vessel is of all welded construction, 11,000 tons dead weight, 425 feet over-all length, 64 feet maximum beam, and has a draft of 34 feet.

There are 16 main cargo tanks in eight fore and aft groups divided into port and starboard tanks by a centerline bulkhead which assures the utmost stability. Summer tanks are fitted throughout the entire length of the main cargo tanks in the upper 'tween decks each side. Forward of the tanks, general cargo space is provided.

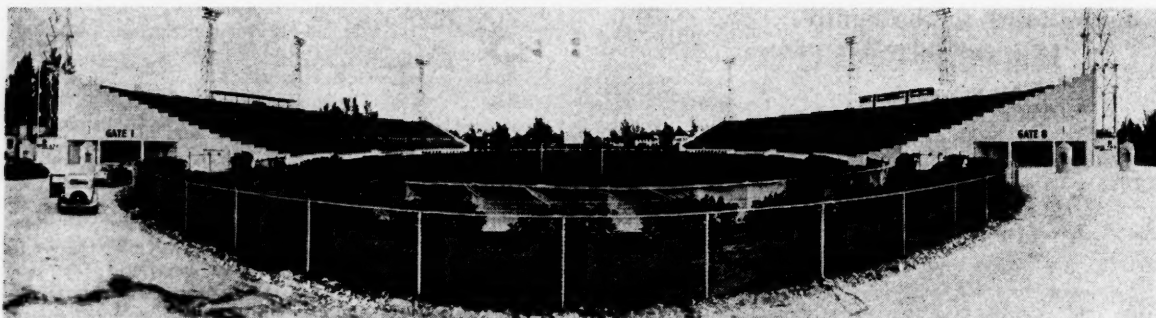
The cargo will be discharged with eight turbine driven pumps each having a normal capacity of 650 barrels per hour or a ship total of 218,400 gallons per hour permitting discharge of a full capacity cargo of 84,000 barrels in about 16 hours.

Freeport Sulphur Company's Output

According to an announcement by Mr. Langbourne M. Williams, Jr., President, Freeport Sulphur Company, there has been produced from this company's property at its Grande Ecaille, La., salt dome, during the past four years, 1,100,000 tons of sulphur. While geographical handicaps at first made it doubtful if sulphur could ever be successfully recovered from the salt dome in which it was found, it is now accounting for 14 per cent of the U. S. production of elemental sulphur.

By Bell System CONFERENCE TELEPHONE SERVICE this Cincinnati plant superintendent is talking to the Chicago headquarters on page 60 and the St. Louis warehouse manager on page 70, exactly as if they were all sitting around the same table. Conference Telephone Service gets busy executives together quickly — saves miles, minutes and money. Try it. Ask Long Distance for the Conference operator.





The All-Steel-Deck Orange Bowl Stadium at Miami, Florida

Largest All-Steel Stadium Dedicated at Miami, Florida

The dedication of the Orange Bowl Stadium with a seating capacity of 25,000 at Miami, Florida last month, brought to completion what is said to be the largest all-steel stadium in the United States.

Equipped with a complete and ample lighting system to provide for night games, the prime feature of construction comprises a steel deck in which the plates are bent so that each plate forms one riser and one tread. These are interlocked with steel lugs which are welded on in the shop. The seams between plates are welded in the field, making one solid watertight deck. The manufacture and erection were carried out by the Virginia Bridge Company of Roanoke, Va., and conforms to the general design established by this firm for the stadium at Columbia, S. C., which has a seating capacity of 18,000, the 15,000 seat addi-

tion to the Sugar Bowl Stadium at Tulane as well as the stadium for the University of New Mexico where the underpart was laid out for classrooms, auditorium and similar quarters.

Concrete Industries' Conventions to Meet

Four concrete industries will hold their conventions simultaneously during the week of February 7 to 11 at Chicago. The American Concrete Contractors Association, National Concrete Masonry Association, National Cinder Concrete Products Association, and Cast Stone Institute will be addressed by recognized leaders in every branch of their work to discuss and demonstrate the latest developments in building and selling concrete structures.

In conjunction with the conventions, there will be an exposition of concrete industries in which manufacturers will demonstrate the newest machinery, equip-

ment and materials used in concrete work. Discussions will range from an explanation of the U. S. Housing Act of 1937, to the Housing Market—Fitting Concrete Products to that Market, as well as concrete contracting problems of various sorts.

Among the exhibitors at the Exposition are the following:

Blaw Knox Company
Chain Belt Company
Construction Machinery Co.
Gorman-Rupp Company
Jaeger Machine Company
Jeffrey Mfg. Company
Kochring Company
Mall Tool Company
Ransome Concrete Machinery Co.
T. L. Smith Company
Detroit Steel Products Co.
Insley Mfg. Company
Lancaster Iron Works, Inc.
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Fuller Co.
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*Structural Steel for all Industrial Structures,
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Ornamental and Industrial PERFORATED METALS

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FOUNDRY & MANUFACTURING CO., INC.
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STRUCTURAL for BUILDINGS STEEL and BRIDGES

Capacity 1000 Tons per Month. 3000 Tons in Stock

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The Largest Steel Fabricators in the Carolinas

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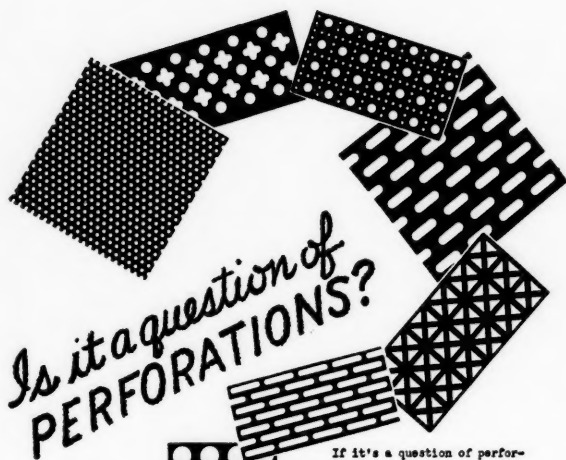
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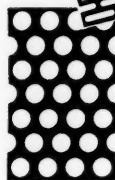
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Steel Plate and Miscellaneous Iron Work
Complete Stock Shapes, Plates, Sheets and Bars for
Immediate Shipment

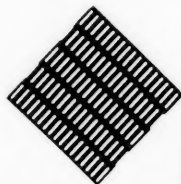
BRISTOL, VIRGINIA-TENNESSEE
"SAVE WITH STEEL"



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If it's a question of perforated sheets in Aluminum, Brass, Copper, Steel, Tin or Zinc, and you are interested in buying the best, getting it at once, and at a reasonable price --- ASK ERDLE TO QUOTE.



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for Screening, Grading, Ventilating or any industrial purpose. Also Grilles of many beautiful designs.

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Manufacturers of Mitco Open Steel Flooring, Mitco Shur-Site Treads and Mitco Armorgrids.

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CHARLES MUNDT & SONS
490 Johnston Ave., JERSEY CITY, N. J.

1937 Construction Record

(Continued from page 46)

Industrial Building

(Including Filling Stations, Garages)
December, 1937

	Contracts Awarded	Contracts to be Awarded	Contracts Awarded Twelve Months 1937
Alabama	\$646,000	\$527,000	\$19,120,000
Arkansas	423,000	205,000	3,669,000
District of Columbia	31,000		2,452,000
Florida	1,115,000	1,579,000	21,222,000
Georgia	1,380,000	1,295,000	9,382,000
Kentucky	247,000		9,726,000
Louisiana	3,205,000	5,085,000	21,296,000
Maryland	351,000	780,000	21,228,000
Mississippi	214,000	455,000	4,167,000
Missouri	490,000	6,668,000	18,030,000
North Carolina	230,000	605,000	13,440,000
Oklahoma	40,000	1,915,000	7,472,000
South Carolina	429,000	25,000	4,771,000
Tennessee	2,224,000	2,739,000	15,909,000
Texas	649,000	7,025,000	39,726,000
Virginia	8,000	173,000	13,675,000
West Virginia		1,755,000	5,951,000
Total	\$11,682,000	\$30,831,000	\$231,216,000

Public Building

(City, County, Government and State; Hospitals, Schools, etc.)
December, 1937

	Contracts Awarded	Contracts to be Awarded	Contracts Awarded Twelve Months 1937
Alabama	\$619,000	\$289,000	\$2,461,000
Arkansas	145,000	91,000	1,248,000
District of Columbia	164,000	250,000	30,349,000
Florida	740,000	1,407,000	3,823,000
Georgia	2,374,000	596,000	4,629,000
Kentucky	293,000	372,000	6,120,000
Louisiana	1,607,000	969,000	18,568,000
Maryland	2,224,000	499,000	10,305,000
Mississippi	1,369,000	235,000	4,287,000
Missouri	628,000	2,943,000	14,120,000
North Carolina	1,073,000	362,000	7,771,000
Oklahoma	149,000	465,000	8,400,000
South Carolina	782,000	260,000	3,987,000
Tennessee	1,115,000	3,808,000	4,138,000
Texas	5,175,000	4,770,000	21,811,000
Virginia	288,000	780,000	10,190,000
West Virginia	328,000	982,000	2,604,000
Total	\$19,073,000	\$19,198,000	\$154,811,000

Petroleum Prosperity in the South

(Continued from page 33)

ment in the southern states is estimated at close to \$6,000,000,000. Of the industry's 1,000,000 employees, probably about half are stationed in the South. Their aggregate annual pay envelope should run close to \$750,000,000. Southern business is better because a large part of the petroleum industry's annual \$1,000,000,000 supply order is placed in the south. Farmers in southern oil producing states know petroleum as a big money crop. They receive millions of dollars annually in lease, rental, and bonus payments, and in royalties.

All these factors combine to make oil one of the South's most valuable assets, as long as the industry which makes this asset economically useful and productive is permitted to do so in the most efficient manner possible. Those who are conversant with the facts are agreed that the southern petroleum industry is bearing more than its fair share of the tax burden. Since it is axiomatic that excessive taxation invariably acts as a brake on industrial growth, southern legislators might do worse than to keep these facts in mind whenever they may again feel

tempted to increase the tax load already resting on the shoulders of petroleum. Barring the erection of such additional tax barriers, the southern petroleum industry sees its way clear toward contributing generously in the future, as it has in the past, to the progress and development of the South.

The Southern Pine Lumber Industry in 1937

(Continued from page 62)

run close to 1937 and approximate 1930 in some of its results, with some lines, perhaps, topping 1930.

The need for new and replaced housing will be pressing, and if home-builders are not frightened by legislative threats inimical to their earnings and investment interests, there should be a fairly large demand for building materials, probably better than in 1937, according to the estimates of some authorities who think that new residential construction, for example, may advance 10% or more over the past year. The cash farm income in 1937 totaled \$8,500,000,000, the largest since the 1929 boom year. This is almost twice the 1932 income of \$4,328,000,000 a gain of 7.3% over the 1936 income of \$7,920,000,000, and 19% below the peak in-

come of \$10,479,000,000 in 1929. Rural purchasing power, therefore, is greatly enhanced and should reflect in new building operations and in trade generally.

Industrial Expansion in the South

Information issued by the Commonwealth & Southern Corporation of the work done in locating new industries in the South, offers substantial encouragement to everyone concerned in developing the industrial opportunities of this section.

In the first nine months of 1937 there were 86 plants located, as compared with 90 for the whole year of 1936, and the total in nine months was greater than for any entire year with the exception of 1930.

The capital investment in the first nine months of 1937 of these new industries which were located, was \$40,828,000. This is more than any similar investment in any full year of the last eight.

Structural Steel Orders

The American Institute of Steel Construction reports that its November business was the largest in volume since last July. Bookings were 58.4 per cent of normal, the yearly average for 1928-31 being counted as normal. The monthly average for the first eleven months of 1937 was 59 per cent.



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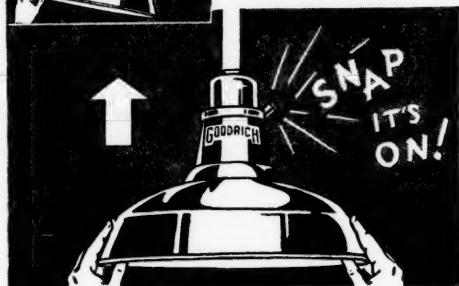
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The St. Charles, New Orleans, La. The O. Henry, Greensboro, N. C. The Tutwiler, Birmingham, Ala.

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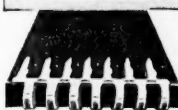
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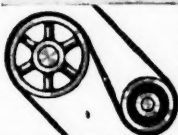
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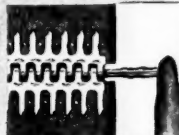
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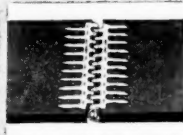
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This St. Louis warehouse manager is in conference, by Bell System **CONFERENCE TELEPHONE SERVICE**, with the big boss in Chicago (page 60) and the Cincinnati plant superintendent (page 65). Miles apart, **SEE PAGES 60, 65** the three men talk and listen in turn on the same connection. Conference service is the fast, easy way to get information direct to the right people, with full discussion for complete understanding.



Dr. F. J. Tone Awarded Chemical Medal

The Perkin Medal of the Society of Chemical Industry will be presented to Dr. Frank J. Tone, President of the Carborundum Co., at a joint meeting of the American Section of the Society of Chemical Industry and the American Chemical Society on January 7, 1938. The medal is awarded annually for the most valuable work in applied chemistry and is given to Dr. Tone for his work in the field of abrasives and refractories. James G. Vail, Chairman of the American Section, will preside over the meeting. The program will include a talk on the life and accomplishments of the medalist by Dr. Carl G. Schluenderberg, presentation of the medal by Professor Marston T. Bogert and the medal address "The Quest for Hard Materials" by Dr. Tone. The meeting will be held at 8:00 P. M. at The Chemists' Club, 52 East 41st St., New York City. A dinner in honor of Dr. Tone will also be held there preceding the meeting, starting at 6:15 P. M.

27,000,000 Barrels of Cement in Roads

Construction of the nation's highways requires almost twice as much cement as does small home building. A recent survey estimates that 27,000,000 barrels of cement were used for highway purposes in 1937, while about 15,000,000 went into home building.

The Industrialist in City Planning

(Continued from page 50)

large shift in population from rural to urban areas and, in addition, there has been a shift in the population in urban areas from the centers to the outskirts. In the last decade our suburbs have increased in population faster than have the centers of cities. Because congestion brings discomfort and economic loss, it has been suggested that it might be desirable to create "garden" cities adjacent to our metropolitan centers.

Such garden cities built in England are usually self-contained communities with residential, commercial and industrial areas. They are limited in size and are surrounded by a permanent green belt of agricultural and park lands.

A variation of the usual type garden city is Wythenshawe, now a part of the industrial City of Manchester, where eventually a community of 125,000 people is expected to live. At the present time the population is 32,000. Industries are being developed in this area so that the residents of the Wythenshawe Estate, which is owned by the Manchester Corporation, will not be forced to travel long distances from home to work. The

success of these undertakings is now acknowledged. But it must not be inferred that the garden cities are a substitute for city planning, nor that they answer all our community problems.

Studies made in a number of American cities show that many of the residential districts do not "carry" themselves. In other words, the amount of income received from taxes is not equal to the amount expended by the municipality for its police and fire protection, schools, recreation, hospitals.

Frequently a careful analysis of municipal expenditures shows that manufacturing and commercial sections pay more into the city treasury than is actually spent in those areas for municipal services. Nevertheless, it would not be fair to jump to the conclusion that industrial and commercial areas pay more than their share of city taxes. It must not be forgotten that industries employ large numbers of men and that these men must be provided with schools, recreation areas and hospitals in the districts in which they live.

It is important to remember, therefore, that industry has a very large stake in the management of the community in which it is located because of the very contribution it makes to the community's support. The active, unselfish interest of the industrialist in the future development of the community is as important as the interest of the home owner. When the citizens of a community take a greater interest in the day by day expenditures which are made for public improvements—in other words, when they take a greater interest in the planning and development of the community—a community which more nearly meets the social and economic requirements of the age will result.

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